SEPTEMBER 2015 PUBLIC COMMENT DRAFT – NAVAJO NATION SURFACE WATER QUALITY STANDARDS ~~2007~~ 2015

(Photograph of the ~~Little Colorado River near Grand Falls on January 4, 2005~~ Colorado River near Lees Ferry on October 27, 2003)

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Passed by Navajo Nation Resources Committee on ~~May 13, 2008~~

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PART I
SURFACE WATER QUALITY STANDARDS - GENERAL PROVISIONS

§ 101 TITLE

These regulations are cited as the Navajo Nation Surface Water Quality Standards 2015 (NNSWQS 2015).

§ 102 AUTHORITY

These regulations are adopted pursuant to §104(b) and §201 of the Navajo Nation Clean Water Act (NNCWA), C.J.Y.-81-99; they establish surface water quality standards applicable to the surface waters of the Navajo Nation pursuant to §303 and §518 of the Federal Clean Water Act.

§ 103 PURPOSE

A. The purpose of these surface water quality standards is to protect, maintain, and improve the quality of Navajo Nation surface waters for public and private drinking water supplies; to promote the habitation, growth, and propagation of native and other desirable aquatic plant and animal life; to protect existing, and future, domestic, cultural, agricultural, recreational and industrial uses; and to protect any other existing and future beneficial uses of Navajo Nation surface waters. These standards provide the water quality goals for each body of surface water within the Navajo Nation and provide the basis for establishing treatment controls and strategies through regulation.

B. These standards apply to all Waters of the Navajo Nation.

§ 104 DEFINITIONS

A. "Acute Standard" means a standard that applies to any single sample; acute standards shall not be exceeded at any time.

B. "Acute Toxicity" means toxicity involving a stimulus severe enough to induce a deleterious response (e.g., mortality, disorientation, immobilization) in 96 hours of exposure or less.

C. "Agricultural Water Supply (AgWS)" means the use of the water for the irrigation of crops that could be used for human consumption.

D. "Aquatic and Wildlife ~~Habitat~~ (A&W~~Hbt~~)" means the use of the water by animals, plants or other organisms, including salmonids and non-salmonids, and non-domestic animals

(including migratory birds) for habitation, growth or propagation. Water body supports or is capable of supporting either cold water fishes, including trout species or warm water fishes including bass species, catfish species, and bluegill species. Water body supports the aquatic communities upon which cold and warm water fishes depend. Cold waters are waters that typically have temperatures below 20 ^{o}C. Warm waters are waters that typically have temperatures exceeding 20 ^{o}C. Water body supports prey base for non-domestic animals (including migratory birds).

E. "Assimilative Capacity" means the difference between the baseline water quality concentration of a pollutant and the most stringent applicable water quality criterion for that pollutant.

F. "Best Management Practices" or "BMPs" means methods, measures or practices selected by an agency to meet its nonpoint source pollution control needs, or, in the case of the National Pollutant Discharge Elimination System, schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the pollution of waters of the Navajo Nation. BMPs include, but are not limited to, structural and non-structural controls, treatment requirements, operation and maintenance procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage, and can be applied before, during, or after pollution-producing activities to reduce or eliminate the introduction of pollutants into Waters of the Navajo Nation.

G. "Bioaccumulation" means the process of a chemical accumulating in a biological food chain by being passed from one organism to another as the contaminated organism is preyed upon by another organism.

H. "Bioconcentration" means the process by which there is a net accumulation of a chemical directly from water into aquatic organisms resulting from simultaneous uptake and elimination.

I. "Chronic Standard" means a standard that applies to the geometric mean of the analytical results of the last four samples taken at least 24 hours apart ~~arithmetic mean of samples collected during four consecutive days~~; chronic standards shall not be exceeded more than once every three years.

J. "Chronic Toxicity" means toxicity involving a stimulus that lingers or continues for a relatively long period relative to the life span of an organism before effects are observed (e.g., 28 days for small fish test species). Chronic effects include, but are not limited to, lethality, growth impairment, behavioral modifications, disease and reduced or impaired reproduction.

K. "Clean Water Act" means the Federal Water Pollution Control Act of 1972, as amended, 33 U.S.C., § 1251 *et seq*.

L. "Critical Flow Condition" means the lowest flow over seven consecutive days that has a probability of occurring once in 10 years (7 Q 10).

M. "Criteria" means elements of water quality standards that are expressed as ~~pollutant~~ chemical, physical, biological, or radiological concentrations, levels, properties or narrative statements representing a water quality that supports a designated use. When criteria are met, water quality should protect the designated use.

N. "Deep lake" means a lake or reservoir with an average depth over 6 meters.

O. "Designated Use" means a use described in ~~§205~~ §206 and specified in Table ~~205.1~~ 206.1 of these standards for a surface water body or surface water body segment of the Navajo Nation.

P. "Diel" means a measurement obtained during 24 hours.

Q. "Director" means the Executive Director of the Navajo Nation Environmental Protection Agency.

R. "Dissolved" means the concentration of a constituent in a water sample that is analytically determined following filtration ~~using~~ through a 0.45 micron filter.

S. "Domestic Water Supply (Dom)" means the use of the water as a potable water supply.

T. "Ephemeral Surface Water" ~~means a water that has a channel that is at all times above the water table, and that flows only in direct response to precipitation.~~ means a flowing or non-flowing surface water that has a stream bed, lake bed, or pond bed that is at all times above the water table and water above the bed is only present in direct response to precipitation.

U. "Exceptional Waters of the Navajo Nation" means ground or surface waters that have been determined to be of exceptional cultural, ecological and/or recreational significance due to the nature of their flora, fauna, water quality, aesthetic value, or wilderness characteristics.

V. "Fish Consumption (FC)" means the use of the water by humans for harvesting aquatic organisms for consumption. Harvestable aquatic organisms include, but are not limited to, fish, shell-fish, turtles, crayfish, and frogs.

W. "Geometric Mean" means the nth root of the product of n items or values. A minimum of four samples shall be used to calculate the geometric mean. The geometric mean is

calculated using the following formula:

$$GM_Y = \sqrt[n]{(Y_1)(Y_2)(Y_3)...(Y_n)}$$

X. "Hardness" means the sum of the calcium and magnesium concentrations, expressed as calcium carbonate ($CaCO_3$), in milligrams per liter (mg/L) and may be calculated using the following formula: Hardness (as $CaCO_3$) = 2.5 × Ca^{2+} (mg/L) + 4.1 × Mg^{2+} (mg/L). Hardness analysis is done from a dissolved water sample.

Y. "Igneous lake" means a lake or reservoir located in volcanic or basaltic geology and soils.

Z. "Intermittent Surface Water ~~Stream~~" ~~means a watercourse~~ means a flowing or non-flowing surface water with water above the stream bed, pond bed, or lake bed ~~that flows~~ only at certain times of the year, receiving water from springs or surface sources; also, a watercourse that does not flow continuously, when water losses from evaporation or seepage exceed available stream flow.

AA. "Livestock Watering (LW)" means water used by livestock for consumption (ingestion).

BB. "Micrograms per Liter (µg/l)" means micrograms of solute per liter of solution (equivalent to parts per billion when the specific gravity of the solution = 1.000).

CC. "Milligrams per Liter (mg/l)" means milligrams of solute per liter of solution (equivalent to parts per million when the specific gravity of the solution = 1.000).

DD. "Nonpoint Source" means any source of water pollution that is not a point source, as defined herein.

EE. "NTU" is a nephelometric turbidity unit based on a standard method using formazin polymer or its equivalent as the standard reference suspension. Nephelometric turbidity measurements expressed in units of NTU are numerically identical to the same measurements expressed in units of FTU (formazin turbidity units).

FF. "Oil" means oil of any kind or in any form, including but not limited to petroleum, crude oil, gasoline, fuel oil, diesel oil, lubricating oil, oil refuse, sludge, vegetable oil, animal oil, and oil mixed with wastes.

GG. "Perennial Surface Water" means a flowing or non-flowing surface water that is present continuously throughout the year.

HH. "Photic zone" means the lighted region of a lake where photosynthesis takes place. Extends down to a depth where plant growth and respiration are balanced by the amount of light available.

II. "Picocurie (pCi)" is a measure of radioactivity equal to the quantity of a radioactive substance in which the rate of disintegrations is 2.22 per minute. Expressed in picocuries per liter (pCi/l).

JJ. "Point Source" means any discernible, confined, and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, landfill leachate collection system, container, rolling stock (except to the extent excluded from the NPDES program by section 601 of the National and Community Services Act of 1990, P.L. 101-610, 104 Stat. 3185), concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged into a body of water. This term does not include agricultural storm water discharges or return flows from irrigated agriculture.

KK. "Pollutant" means fluids, contaminants, toxic wastes, toxic pollutants, dredge spoil, solid waste, substances and chemicals, pesticides, herbicides, fungicides, rodenticides, fertilizers, and other agricultural chemicals, incinerator residue, sewage, garbage, sewage sludge, munitions, petroleum products, oils, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, dirt, and mining, industrial, municipal, and agricultural wastes or any other liquid, solid, gaseous, or hazardous substance.

LL. "Pollution" means any ~~man~~-human-made or ~~man~~ human-induced alteration of the chemical, physical, biological, or radiological integrity of waters of the Navajo Nation.

MM. "Primary Human Contact (PrHC)" means the use of the water that causes the human body to come into direct contact with the water, typically to the point of submergence in the water body, or probable ingestion of the water, or contact by the water with membrane material of the body. Examples include ceremonial uses, swimming and water-skiing.

NN. "Recreational Uses" are the Primary Human Contact and Secondary Human Contact designated uses.

OO. "Regional Administrator" means the Regional Administrator of Region 9 of the U.S. Environmental Protection Agency.

PP. "Secondary Human Contact (ScHC) " means the use of water which may cause the water to come into direct contact with the skin of the body but normally not to the point of submergence, ingestion of the water, or contact of the water with membrane material of the body. Such contact would occur incidentally and infrequently. Examples include ceremonial and other cultural uses, boating and fishing.

QQ. “Sedimentary lake” means a lake or reservoir in sedimentary or karst geology and soils.

RR. "Shallow lake" means a lake or reservoir with an average depth of less than 3 meters and a maximum depth of less than 4 meters.

SS. "TDS" means total dissolved solids, also termed "total filterable residue."

TT. "Total Concentration" means the concentration of a constituent in a water sample which is analytically determined without filtration through a 0.45 micron filter.

UU. "Total Nitrogen" means the sum of the concentrations of ammonia (NH_3), ammonium ion (NH_{4+}), nitrite (NO_{2-}), nitrate (NO_{3-}) and dissolved and particulate organic nitrogen in a water sample, expressed as elemental nitrogen (N).

VV. "Total Phosphorus" means all the phosphorus species present in a water sample, regardless of form, as measured by a persulfate digestion procedure.

WW. "Toxic Pollutant" means a pollutant, or combination of pollutants, including disease-causing agents, which, after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring. Aquatic toxicity may be determined by the "National Whole Effluent Toxicity (WET) Implementation Guidance Under the NPDES Program, Draft, U.S. Environmental Protection Agency, Office of Wastewater Management, (EPA-832-B-04-003) (November, 2004)" which is incorporated by reference.

XX. "Turbidity" means the optical clarity of water that causes incident light to be scattered or absorbed rather than transmitted in straight lines.

YY. ~~"Unique Waters" means ground or surface waters that have been determined to be of exceptional cultural, ecological and/or recreational significance due to the nature of their flora, fauna, water quality, aesthetic value, or wilderness characteristics.~~

ZZ. "Wastewater Mixing Zone" means a defined and limited part of a surface water body, with defined boundaries adjacent to a point source of pollution, in which initial dilution of wastewater occurs.

AAA. "Waters of the Navajo Nation" means all surface waters including, but not limited to, perennial, intermittent and ephemeral reaches and portions of rivers, streams ~~(including perennial, intermittent and ephemeral streams and their tributaries)~~, lakes, ponds, dry washes, marshes, waterways, wetlands, mudflats, sandflats, sloughs, prairie potholes, wet meadows, playa lakes, impoundments, riparian areas, springs, tributaries and all other bodies or accumulations of water, surface, natural or artificial, public or private,

including those dry during part of the year, which are within ~~or border~~ the Navajo Nation. This definition shall be interpreted as broadly as possible to include all waters which are currently used, were used in the past, or may be susceptible to use in interstate, intertribal or foreign commerce. Consistent with federal requirements, the Director may exclude from waters of the Navajo Nation certain waste treatment systems.

BBB. "Wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

CCC. "Zone of passage" means a continuous water route of volume, cross-sectional area and quality necessary to allow passage of free-swimming or drifting organisms with no toxic effect produced on the organisms.

§ 105 SEVERABILITY

If any provision of these regulations or the application thereof to any person or circumstance is held invalid, the remainder of these regulations and the application of such provision to other persons or circumstances shall remain unaffected, and to this end the provisions of these regulations are declared to be severable.

PART II
SURFACE WATER QUALITY STANDARDS

§ 201 ANTIDEGRADATION POLICY

The following antidegradation policy is promulgated under § 201(a) of the Navajo Nation Clean Water Act (C.J.Y.-81-99).

A. Existing designated uses and the level of water quality necessary to protect the existing designated uses shall be maintained and protected.

B. Where the quality of any water body is of a higher quality than is necessary to support existing designated uses, including but not limited to the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water body, that quality shall be maintained and protected unless the Navajo Nation finds, after full interagency coordination and public participation, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the water body is located. In allowing such degradation or lower water quality, the Navajo Nation shall assure water quality adequate to protect existing designated uses fully.

C. The Navajo Nation shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost effective and reasonable best management practices for nonpoint source pollution control.

~~D. Where high quality waters or Unique Waters constitute an outstanding resource of the Navajo Nation, such as waters of National parks and monuments, Tribal parks and wildlife refuges, and other waters of exceptional recreational, cultural or ecological significance, that water quality shall be maintained and protected.~~

E. This policy of antidegradation includes protection against water quality impairment associated with thermal discharges and shall be implemented consistent with §316 of the Federal Clean Water Act (33 U.S.C. §1326).

F. The Director shall determine whether there is degradation of water quality in a surface water on a pollutant-by-pollutant basis.

G. Tier 1: The level of water quality necessary to protect existing uses shall be maintained and protected. No degradation of existing water quality is permitted in a surface water where the existing water quality does not meet the applicable water quality standard.

H. Tier 2: Where existing water quality in a surface water is better than the applicable water quality standard, the existing water quality shall be maintained and protected. The Director may allow limited degradation of existing water quality in the surface water, provided that the Department holds a public hearing on whether degradation should be allowed and the Director makes all of the following findings:

1 The level of water quality necessary to protect existing uses is fully protected. Water quality shall not be lowered to a level that does not comply with applicable water quality standards.

2 The highest statutory and regulatory requirements for new and existing point sources are achieved.

3 All cost-effective and reasonable best management practices for non-point source pollution control are implemented.

4 Allowing lower water quality is necessary to accommodate important economic or social development in the area where the surface water is located.

I. Tier 3: Existing water quality shall be maintained and protected in a surface water that is classified as a Exceptional Water of the Navajo Nation under NNSWQS 2015 Section 209 . The Director shall not allow limited degradation of an Exceptional Water of the Navajo

Nation under Section 209 Subsection (C).

§ 202 ANTIDEGRADATION IMPLEMANTATION PROCEDURES

The following antidegradation policy is promulgated under § 201(a) of the Navajo Nation Clean Water Act (C.J.Y.-81-99).

A. This section applies to a regulated discharge that may degrade the existing water quality of a surface water. "Regulated discharge" means a point source discharge regulated under a National Pollutant Discharge Elimination System (NPDES) permit, any discharge regulated by an individual, nationwide or regional §404 permit, and any discharge authorized by a federal permit or license that is subject to Navajo Nation water quality certification under §401 of the US Clean Water Act.

B. Tier 1 antidegradation protection: The level of water quality necessary to meet applicable water quality standards shall be maintained and protected in a surface water. A regulated discharge shall not cause a violation of an applicable surface water quality standard for a surface water.

1. Tier 1 antidegradation protection applies to the following surface waters:
   a. A surface water listed as impaired under the US Clean Water Act §303(d) list and/or listed as effluent limited under the Navajo Nation Clean Water Act §205 and/or for the pollutant that results in a listing;
   b. An ephemeral water;
   c. A perennial water; and
   d. An intermittent surface water.
2. A regulated discharge shall not cause further degradation of existing water quality in an water listed as impaired under the US Clean Water Act §303(d) list and/or listed as effluent limited under the Navajo Nation Clean Water Act §205 for the pollutant that resulted in the listing.
3. Tier 1 antidegradation review requirements are satisfied for a point source discharge regulated under a NPDES permit to an ephemeral water, a perennial water or an intermittent water provided water quality-based effluent limitations designed to achieve compliance with surface water quality standards are established in the permit and technology-based requirements of the Clean Water

Act for the point source discharge are met.

C. Tier 2 antidegradation protection applies to an ephemeral water, a perennial water or an intermittent water with existing water quality that is better than applicable water quality standards. Existing water quality water shall be maintained and protected in an ephemeral water, a perennial water or an intermittent water. An ephemeral water, a perennial water or an intermittent water that is not listed as impaired under the US Clean Water Act §303(d) list and/or listed as effluent limited under the Navajo Nation Clean Water Act §205 for the pollutant that results in a listing nor classified as an Exceptional Water of the Navajo Nation is presumed to have Tier 2 antidegradation protection for all pollutants of concern. The Department may allow degradation of existing water quality on a pollutant-by-pollutant basis in accordance with the following procedures:

1 A regulated discharge resulting in significant degradation of existing water quality of an ephemeral water, a perennial water or an intermittent water is subject to a comprehensive antidegradation review. For purposes of this section, "significant degradation" means the consumption of 20 percent or more of the available assimilative capacity of a surface water for a pollutant of concern at critical flow conditions.

2 The Department may allow significant degradation provided the Department determines, after public participation and intergovernmental coordination requirements are satisfied, that there are no reasonable, cost-effective, less-degrading or non-degrading alternatives and allowing significant degradation is necessary to accommodate important economic or social development in the area where the surface water is located.

3 A regulated discharge shall not significantly degrade existing water quality to the level where the discharge causes a violation of surface water quality standards.

4 The Department may require a person seeking authorization for a regulated discharge to a perennial water to provide baseline water quality data on pollutants of concern reasonably expected to be in the discharge. The Department will use existing data where available to characterize baseline water quality. The Department may require the person seeking authorization for a regulated discharge to provide data to the Department to characterize baseline water quality where no data exist or there are insufficient data to characterize baseline water

quality for a pollutant of concern. Baseline water quality shall be characterized at a location upstream of the proposed discharge location.

5 A person seeking authorization for a regulated discharge that will significantly degrade water quality of an ephemeral water, a perennial water or an intermittent water shall prepare and submit to the Department a written analysis of alternatives to the discharge. The alternatives analysis shall provide information on all reasonable, cost-effective, less degrading or non-degrading pollution control alternatives that do not result in significant degradation. Alternatives may include, but are not limited to, wastewater treatment process changes or upgrades, pollution prevention measures, source reduction, water reclamation, alternative discharge locations, groundwater recharge, land application or treatment, local pretreatment programs, improved operation and maintenance of existing systems, and seasonal or controlled discharge to avoid critical flow conditions.

a. An alternatives analysis shall include cost information on base pollution control measures associated with the regulated discharge. Base pollution control measures are water pollution control measures required to meet technology-based requirements of the US Clean Water Act and water quality-based effluent limits designed to achieve compliance with applicable water quality standards.

b. An alternatives analysis shall include the treatment costs of each alternative that produces an effluent that does not result in significant degradation.

c. An alternative is deemed to be cost-effective and reasonable if treatment costs associated with the alternative are less than 110 percent of the cost of base pollution control measures.

d. The Department will require that the alternative or combination of alternatives that results in the least degradation and does not exceed 110 percent of the cost of base pollution control measures be implemented.

6 A person seeking authorization for a discharge to a perennial water that will result in significant degradation shall prepare a written statement demonstrating that the discharge and significant degradation are necessary to accommodate important social and economic development in the area of the discharge.

7 In accordance with the Navajo Nation Environmental Protection Agency's

Uniform Regulations, Permit Review, Administrative Enforcement Orders, Hearings, and Rulemaking Under Navajo Nation Environmental Acts, the Department shall provide public notice of an antidegradation review, provide an opportunity for public comment on its antidegradation review, and hold public hearings on antidegradation reviews. Intergovernmental coordination is required before the Department approves a regulated discharge that will significantly degrade a perennial water.

D. Tier 3 antidegradation protection applies only to Exceptional Waters of the Navajo Nation and their tributaries. Existing water quality in an Exceptional Water of the Navajo Nation shall be maintained and protected.

1 A new or expanded regulated discharge directly to an Exceptional Water of the Navajo Nation is prohibited.

2 The Department may authorize a regulated discharge to a tributary or upstream of an Exceptional Water of the Navajo Nation provided the person seeking authorization for the regulated discharge demonstrates in a permit application or in other written documentation submitted to the Department that the regulated discharge will not degrade existing water quality in the downstream Exceptional Water of the Navajo Nation

3 The Department may allow temporary and short-term changes to existing water quality of an Exceptional Water of the Navajo Nation on a case-by-case basis. Temporary and short-term changes are defined as those occurring for a period of six months or less.

E. The Department shall conduct the antidegradation review of a regulated discharge authorized by an individual, nationwide or regional §404 permit issued by the U.S. Army Corps of Engineers as part of the US CWA §401 water quality certification process. A regulated discharge authorized by a §404 permit that receives §401 water quality certification from the Department is deemed to have satisfied antidegradation requirements provided the permittee complies with the conditions of the §404 permit and any conditions required by the Department for §401 water quality certification. The Department shall conduct the antidegradation review for a nationwide or a regional §404 permit at the time of issuance or re-issuance of the permit by the U.S. Army Corps of Engineers. A person seeking

authorization to discharge under a nationwide or regional §404 permit that has been certified by the Department under §401 of the Clean Water Act is not required to undergo an individual antidegradation review at the time of submittal of the Notice of Intent to be covered by the permit except where a person seeks authorization to discharge to an Exceptional Water of the Navajo Nation. A discharge regulated under a nationwide or regional §404 permit that may affect water quality of an Exceptional Water of the Navajo Nation requires individual §401water quality certification to ensure that water quality impacts are temporary.

F. The Department shall conduct the antidegradation review of a regulated discharge authorized by a general permit for the entire class of discharges covered by the general permit at the time a general permit is issued or renewed. A person seeking authorization to discharge under a general permit that the Department has reviewed on a categorical basis is not required to undergo an individual antidegradation review at the time of submittal of the Notice of Intent to be covered by the general permit except where the discharge may affect water quality of an Exceptional Water of the Navajo Nation Any discharge authorized by a general permit that may affect water quality of an Exceptional Water of the Navajo Nation requires an individual antidegradation review by the Department to ensure that the water quality impacts to the Exceptional Water of the Navajo Nation are temporary.

§ ~~202~~ 203 NARRATIVE SURFACE WATER QUALITY STANDARDS

A. All Waters of the Navajo Nation shall be free from pollutants in amounts or combinations that, for any duration:

1. Cause injury to, are toxic to, or otherwise adversely affect human health, public safety, or public welfare.

2. Cause injury to, are toxic to, or otherwise adversely affect the habitation, growth, or propagation of aquatic life and wildlife. ~~indigenous aquatic plant and animal communities or any member of these communities; of any desirable non-indigenous member of these communities; of waterfowl accessing the water body.; or otherwise adversely affect the physical, chemical, or biological conditions on which these communities and their members depend.~~

3. Settle to form bottom deposits, including sediments, precipitates and organic materials that cause injury to, are toxic to, or otherwise adversely affect the habitation, growth, or propagation of aquatic life and wildlife. ~~indigenous aquatic plant and animal communities or any member of these communities; of any desirable non-indigenous member of these communities; of waterfowl accessing the water body; or otherwise adversely affect the physical, chemical, or biological conditions on which these communities and their members depend.~~

4. Cause physical, chemical, or biological conditions that promote the habitation, growth, or propagation of undesirable, non-indigenous species of plant or animal life in the water body.

5. Cause solids, oil, grease, foam, scum, or any other form of objectionable floating debris on the surface of the water body; may cause a film or iridescent appearance on the surface of the water body; or that may cause a deposit on a shoreline, on a bank, or on aquatic vegetation.

6. Cause objectionable odor in the area of the water body.

7. Cause objectionable taste, odor, color, or turbidity in the water body.

8. Cause objectionable taste in edible plant and animal life, including waterfowl that reside in, on, or adjacent to the water body.

9. Cause the growth of algae or aquatic plants that inhibit or prohibit the habitation, growth, or propagation of other aquatic life or that impair recreational uses.

B. All Waters of the Navajo Nation shall be free of toxic pollutants from other than natural sources in amounts, concentrations, or combinations which affect the propagation of fish or which are toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitation or aquatic organisms for food, or which will or can reasonably be expected to bioaccumulate in tissues of fish, shellfish, or other aquatic organisms to levels which will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors or health risks to human consumers. Aquatic toxicity may be determined by the "National Whole Effluent Toxicity (WET) Implementation Guidance Under the NPDES Program, Draft, U.S. Environmental Protection Agency, Office of Wastewater Management, (EPA-832-B-04-003) (November, 2004)" which is incorporated by reference.

C. No person shall place animal carcasses, refuse, rubbish, demolition or construction debris, trash, garbage, motor vehicles, motor vehicle parts, batteries, appliances, tires, or other solid waste into Waters of the Navajo Nation or onto their banks.

§ ~~203~~ 204 IMPLEMENTATION PLAN

The Navajo Nation Water Quality Program (NNWQP) within the Navajo Nation Environmental Protection Agency (NNEPA), pursuant to the NNCWA, shall implement these water quality standards, including the antidegradation policy, by establishing and maintaining controls on the introduction of pollutants into waters of the Navajo Nation. Specifically, NNWQP shall do the following:

1. Develop a comprehensive database that fully identifies all waters of the Navajo Nation, their quality and designated uses, and any activities which may detrimentally impact those waters and uses.

2. Monitor water quality to assess the effectiveness of pollution controls, and to determine whether designated uses are being supported and narrative and numeric water quality standards are being met.

3. Obtain information as to the impact of effluent on receiving waters.

4. Advise prospective dischargers of discharge requirements.

5. Assess the probable impact of effluent on the capability of receiving waters to support designated uses and achieve narrative and numeric water quality standards.

6. Require the highest degree of wastewater treatment practicable to maintain designated uses and existing water quality.

7. Develop water quality-based effluent limitations and provide comment on technology-based effluent limitations as appropriate for inclusion in any permit to be issued to a discharger pursuant to §301 of the NNCWA, C.J.Y.-81-99, and §402 of the Federal Clean Water Act (33 U.S.C. §1342).

8. Require that effluent limitations or any other appropriate limitations applicable to activities with the potential for discharge to waters of the Navajo Nation be included in any permit as a condition for Navajo Nation certification pursuant to §209 of the NNCWA, C.J.Y.-81-99, and §401 of the Federal Clean Water Act (33 U.S.C. §1341).

9. Coordinate water pollution control activities with other Navajo Nation, local, state, and federal agencies as appropriate.

10. Develop and pursue inspection and enforcement programs in order to ensure that dischargers comply with requirements of the NNCWA and any regulations promulgated there under (including these water quality standards), and in order to support the enforcement of federal permits issued by the U.S.EPA and permits issued by the NNEPA.

11. Provide technical assistance to wastewater treatment facility operators.

12. Assist publicly owned wastewater treatment facilities in the pursuit of wastewater treatment construction funds through construction grants authorized by the Federal Clean Water Act (33 U.S.C. §1281) and other federal funding available for this purpose.

13. Encourage, in conjunction with other agencies, voluntary implementation of best management practices (BMPs) to control nonpoint sources of pollutants in order to support designated uses and meet Navajo Nation narrative and numeric water quality standards.

14. Examine existing and future Navajo Nation policies pertaining to septic systems, solid waste disposal, range management practices, and any other relevant activities to ensure that these policies are sufficient to meet narrative and numeric water quality standards.

15. Require that sufficient instream flows be maintained to support designated uses and meet narrative and numeric water quality standards.

16. Require that surface and groundwater withdrawals do not cause degradation of surface or ground water bodies.

17. Conduct an antidegradation analysis for regulated actions that may potentially impair water quality.

§ ~~204~~ 205 NARRATIVE NUTRIENT STANDARD IMPLEMENTATION PLAN

A. The implementation plan in this Section applies to lakes and reservoirs.

B. The narrative nutrient standard in Section 202(A)(9) is met if sampling conducted during the peak season for lake productivity shows:

1. The mean chlorophyll-a concentration is less than the lower value in the target range chlorophyll-a for the lake category; or

2. The mean chlorophyll-a concentration is within the target range for the lake category and:

a. The mean blue green algae count is at or below 20,000 per milliliter, and

b. The blue green algae count is less than 50 percent of the total algae count, and

c. There is no evidence of nutrient-related impairments such as:

i. An exceedance of dissolved oxygen or pH exceedance;

ii. A fish kill occurring with dissolved oxygen or pH exceedance;

iii. A fish kill or other aquatic organism mortality occurring with algal toxicity;

iv. Secchi depth is less than the lower value prescribed for the lake category;

v. A nuisance algal bloom is present in the lacustrine portion of the lake or reservoir; or

vi. The concentration of total phosphorous, total nitrogen, or total Kjeldahl nitrogen (TKN) is greater than the upper value in the range prescribed for the lake category;

3. Submerged aquatic vegetation covers 50 percent or less of the lake bottom of a shallow lake and there is less than a 5 milligram per liter change in diel dissolved concentrations measured within the photic zone.

C. The following threshold ranges apply during the peak season for lake productivity:

1. Warm water lakes peak season, April - October;

2. Cold water lakes peak season, May – September.

D. Table ~~204.1~~ 205.1 lists the numeric targets for lakes and reservoirs:

Table ~~204.1~~ 205.1 Numeric Targets for Lakes and Reservoirs

Designated Use	Lake Category	Chl-a (ug/L)	Secchi Depth (m)	Total Phosphorus (ug/L)	Total Nitrogen (mg/L)	Total Kjeldahl Nitrogen (TKN)	Blue-Green Algae (per ml)	Blue-Green Algae (% of total)	Dissolved Oxygen (mg/L)	pH
PrHC	Deep	10–15	1.5-2.5	70-90	1.2-1.4	1.0-1.1	20,000			6.5-9.0
	Shallow	10-15	1.5-2.5	70-90	1.2-1.4	1.0-1.1				
	Igneous	20-30	0.5-1.0	100-125	1.5-1.7	1.2-1.4				
	Sedimentary	20-30	1.5-2.0	100-125	1.2-1.4	1.2-1.4				

A&W~~H~~bt (cold water)	All	5-15	1.5-2.0	50-90	1.0-1.4	0.7-1.1		<50		6.5-9.0
A&W~~H~~bt (warm water)	All	25-40	0.8-1.0	115-140	1.6-1.8	1.3-1.6				
Dom	All	10-20	0.5-1.5	70-100	1.2-1.5	1.0-1.2	20,000			5.0-9.0

§ ~~205~~ 206 DESIGNATED USE CLASSIFICATION SYSTEM FOR NAVAJO NATION SURFACE WATERS

A. ~~Designated Uses~~

The following are the designated uses for the surface waters of the Navajo Nation:

Dom **Domestic Water Supply**: Water body supports use of the water as a potable water supply.

FC **Fish Consumption**: Water body supports the use of the water by humans for harvesting aquatic organisms for consumption. Harvestable aquatic organisms include, but are not limited to, fish, shell-fish, turtles, crayfish, and frogs.

PrHC **Primary Human Contact**: Water body supports the use of the water that causes the human body to come into direct contact with the water, typically to the point of submergence in the water body, or probable ingestion of the water, or contact by the water with membrane material of the body. Examples include ceremonial uses, swimming and water-skiing.

ScHC **Secondary Human Contact:** Water body supports the use of water which may cause the water to come into direct contact with the skin of the body, but normally not to the point of submergence, ingestion of the water, or contact of the water with membrane material of the body. Such contact would occur incidentally and infrequently. Examples include ceremonial and other cultural uses, boating and fishing.

AgWS **Agricultural Water Supply**: Water body supports the use of the water for the irrigation of crops which could be used for human consumption.

A&W~~H~~bt **Aquatic and Wildlife ~~Habitat~~:** Water body supports the use of the water by animals, plants or other organisms, including salmonids and non-salmonids, and non-domestic animals (including migratory birds) for

habitation, growth or propagation. Water body supports or is capable of supporting either cold water fishes, including trout species or warm water fishes including bass species, catfish species, and bluegill species. Water body supports the aquatic communities upon which cold and warm water fishes depend. Cold waters are waters that typically have temperatures below 20 ^{o}C. Warm waters are waters that typically have temperatures exceeding 20 ^{o}C. Water body supports prey base for non-domestic animals (including migratory birds).

LW **Livestock Watering**: Water body supports the use of the water by livestock for consumption (ingestion).

B. The Director shall adopt or remove a designated use or subcategory of a designated use by rule.

C. The Director shall revise the designated uses of a surface water if water quality improvements result in a level of water quality that permits a use that is not currently listed as a designated use in Table 206.1.

D. A use attainability analysis shall be conducted prior to removal of a designated use or adoption of a subcategory of a designated use that requires less stringent water quality criteria if the requirements of 40 CFR Section 131.10 are met.

E. ~~Designated Use Modifications~~

~~Modifications to Designated Uses, including removal of a use or establishing a use subcategory, may be made if the requirements of 40 CFR Section 131.10 are met.~~

F. ~~Designated Use Table~~

Table ~~205.1~~ 206.1 lists the uses designated for the ~~currently designated~~ surface waters of the Navajo Nation. Each surface water body is geographically listed according to the Hydrologic Unit Code system developed by the United States Geological Survey (USGS) and published in the USGS's "Water Supply Paper Number 2294". The name of the water body is followed by columns listing the Sub region (or Basin) and Cataloging Unit. A sub region includes the area drained by a river system, a reach of a river and its tributaries in that reach. A cataloging unit is a geographic area representing part or all of a surface drainage basin, a combination of drainage basins, or a distinct hydrologic feature.

G. ~~Applicability of Designated Uses~~

~~Uses that are designated for all Waters of the Navajo Nation are Fish Consumption (FC), Secondary Human Contact (ScHC), Aquatic and Wildlife Habitat (A&WHbt), and~~

~~Livestock Watering (LW)~~.

If a surface water has more than one designated use listed in Table ~~205.1~~ 206.1, the most stringent water quality standard applies.

H. Water quality standards established for the attainment and maintenance of upstream surface water designated uses shall be sufficient to protect the attainment and maintenance of downstream surface water designated uses.

I. The following minimum designated uses apply to a surface water that is not listed in Table 206.1 but that is a tributary to a listed surface water:

1 The aquatic and wildlife, agricultural water supply, secondary human contact and livestock watering designated uses apply to a tributary that is an ephemeral water.

2 The aquatic and wildlife, agricultural water supply, secondary human contact, primary human contact, fish consumption and livestock watering designated uses apply to an unlisted tributary that is a perennial or intermittent surface water.

§ ~~206~~ 207 NUMERIC SURFACE WATER QUALITY STANDARDS

When a Water of the Navajo Nation has more than a single designated use, the applicable numeric standards shall be the most stringent of those established for that body of water.

A. The numeric surface water quality standards for all Designated Uses may be found in Table ~~206.1~~ 207.1.

B. ***E. coli* Bacteria**: The following water quality standards for *Escherichia coli (E. coli)* are expressed in Colony Forming Units per 100 milliliters of water (CFU/100 ml), or as a Most Probable Number (MPN):

E. coli	**Dom**	**PrHC**	**ScHC**
Geometric mean (minimum of four samples in 30 days)	126	126	126
Single sample maximum	235	235	575

C. **pH:** The following water quality standards for pH are expressed in standard units:

pH	**Dom**	**PrHC, ScHC, &-A&W~~Hbt~~**	**AgWS**	**LW**

Maximum	9.0	9.0	9.0	9.0
Minimum	5.0	6.5	4.5	6.5

~~E.~~ D. **Salinity:** To preserve the basin-wide approach to salinity control developed by the Colorado River Basin states, the NNSWQS adopts the plan of implementation contained in the "~~2005 Triennal~~ 2014 Review, Water Quality Standards for Salinity, Colorado River System," Colorado River Basin Salinity Control Forum (~~October 2005~~ October 2014).

J. E. **Suspended Solids**: The following water quality standards for suspended solids concentration are expressed as a median value determined from a minimum of four samples collected at least 7 days apart. A suspended solids sample collected during or within 48 hours of a local precipitation event shall not be used to determine the median value. The suspended solids standards in this section only apply to lotic (flowing) surface waters.

A&W~~H~~bt (warm water)	**A&W~~H~~bt (cold water)**
80 mg/L	25 mg/L

K. F. **Temperature:** The maximum allowable increases in ambient water temperature, expressed in degrees Celsius, due to a thermal discharge are as follows:

A&W~~H~~bt (warm water)	**A&W~~H~~bt (cold water)**
3.0	1.0

This does not apply to a storm water discharge.

L. G. **Dissolved Oxygen:** The following are the water quality standards for dissolved oxygen:

1. **Dissolved Oxygen**

	A&W~~H~~bt (warm water)	**A&W~~H~~bt (cold water)**
Single sample minimum (from a depth no greater than one meter.)	6.0 mg/L	7.0 mg/L
Single sample minimum (from a depth greater than one meter.)	1.0 mg/L	1.0 mg/L

2. A surface water complies with the water quality standard for dissolved oxygen if

the percent saturation of dissolved oxygen is equal to or greater than 90 percent from a depth no greater than one meter.

M. H. **Turbidity:** Turbidity attributable to other than natural causes shall not reduce light transmission to the point that the normal growth, function, or reproduction of aquatic life is impaired or that will cause substantial visible contrast with the natural appearance of the water. Turbidity shall not exceed 10 Nephelometric Turbidity Units (NTU) over background turbidity when the background turbidity is 50 NTU or less, or increase more than 20 percent when the background turbidity is more than 50 NTU. Background turbidity shall be measured at a point immediately upstream of the turbidity-causing activity.

N. **I. Mercury and Methylmercury:** The following are the water quality standards for mercury and methylmercury in total concentrations which apply only to Waters of the Navajo Nation listed in this section (§ 207 (I)):

	A&WHbt (chronic)
Mercury	0.001 ug/L
Methylmercury	0.00011 ug/L

The mercury and methylmercury water quality standards listed in this section (§ 206 (I)) apply only to the following Waters of the Navajo Nation:

Colorado River and perennial tributaries,
Navajo Creek, perennial reaches
Little Colorado River, perennial reaches
Cow Springs Lake
White Mesa Lake
Asaayi Lake
Asaayi Creek, perennial reaches
Asaayi Creek – East Fork, perennial reaches
Red Lake
Trout Lake
Zuni River perennial tributaries
Bluewater Creek, perennial reaches
San Juan River and perennial tributaries
Cutter Dam Reservoir
Chuska Lake
Morgan Lake
Whiskey Lake
Chinle Creek/Chinle Wash, perennial reaches
Nazlini Wash, perennial reaches

Whiskey Creek, perennial reaches
Wheatfields Lake,
Canyon del Muerto Wash, perennial reaches
Tsaile Lake
Tsaile Creek, perennial reaches
Wheatfields Creek, perennial reaches
Aspen Lake
Round Rock Lake
Mancos River, perennial reaches

Information on the mercury and methylmercury chronic numeric standards for the aquatic and wildlife designated use may be found in the United States Fish and Wildlife Service's July 2006 fish tissue study entitled: "Methylmercury and Other Environmental Contaminants in Water and Fish Collected from Four Recreational Fishing Lakes on the Navajo Nation, 2004".

§ ~~207~~ 208 SAMPLE COLLECTION AND ANALYSIS

A. All sample collection methods used to obtain surface water and effluent samples shall be conducted according to the "Quality Assurance ~~Project~~ Plan (QAP) for Surface Water Quality Data Collection, ~~Assessment of Streams and Lakes of the Navajo Nation~~" and other applicable sample collection guidance documents approved by the Navajo Nation EPA Water Quality Program.

B. All analytical methods conducted to evaluate compliance with water quality standards and to support any revisions to those standards, including all field and laboratory analyses to determine chemical, physical or biological conditions of water on the Navajo Nation, shall be conducted in accordance with approved procedures published in 40 CFR §136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants" unless the Navajo Nation selects, by regulation, alternative test methods, including methods under review by EPA for inclusion in 40 CFR §136. Analytical test procedures referenced in and approved in 40 CFR §136 include but are not limited to those published by the American Public Health Association (*Standard Methods for the Examination of Water and Wastewater, 17th edition or latest edition*); by the American Society of Testing Materials; by the U.S. Environmental Protection Agency (*Methods for Chemical Analysis of Water and Wastes* and others); and by the U.S. Geological Survey (Techniques of Water Resource Investigations of the U.S. Geological Survey publication series).

C. When an analytical result is reported as <X or as =X, where X is the Method Reporting Limit for the analyte and the Method Reporting Limit is less than or equal to the surface water quality standard, the result will be considered as meeting the water quality standard.

§ 209 EXCEPTIONAL WATERS OF THE NAVAJO NATION

A. The Director may classify a surface water as an Exceptional Water of the Navajo Nation (EWNN) by rule.

B. The Director may adopt, under NNSWQS Section 212, a site-specific standard to maintain and protect existing water quality in an EWNN.

C. Any person may nominate a surface water for classification as an EWNN by filing a nomination with the Director. The nomination shall include:

1. A map and a description of the surface water;
2. A written statement in support of the nomination, including specific reference to the applicable criteria for an EWNN classification prescribed in Subsection (D);
3. Supporting evidence demonstrating that the criteria in subsection (D) are met; and
4. Available water quality data relevant to establishing the baseline water quality for the proposed EWNN

D. The Director may classify a surface water as an EWNN based upon the following criteria:

1. The surface water is a perennial or intermittent water;
2. The surface water is in a free-flowing condition. For the purposes of this subsection, "in a free-flowing condition" means that a surface waters does not have an impoundments, diversion, channelization, rip-rapping or other bank armor, or another hydrological modification within the reach nominated for an EWNN classification;
3. The surface water has good water quality. For purposes of this subsection, "good water quality" means that the surface water has water quality that meets of is better than applicable surface water quality standards. A surface water that is listed as impaired is ineligible for EWNN classification; and
4. The surface water meets one or both of the following conditions:
   a. The surface water is of exceptional cultural, ecological, and/or recreational significance because of its unique attributes, such as the geology, flora and fauna, water quality, aesthetic value, cultural resource value, and/or the wilderness characteristic of the surface water;
   b. An endangered or threatened species is associated with the surface water and the existing water quality is essential to the species' maintenance and propagation and/or the surface water provides critical habitat for the threatened or endangered species. An endangered or threatened species is identified by the Navajo Nation Fish and Wildlife Service.

E. The Director shall hold at least one public meeting in the local area of a surface water that is nominated for classification as an EWNN to solicit public comment on the nomination.

F. The Director shall consider the following factors when deciding whether to classify a surface water as an EWNN;
   1. Whether there is the ability to manage the surface water and its watershed to maintain and protect existing water quality:
   2. The social and economic impact of Tier 3 antidegradation protection;

3. The public comments in support of, or in opposition to, an EWNN classification,
4. The timing of the nomination relative to the triennial review of surface water quality standards;
5. The consistency of an EWNN classification with applicable water quality management plans; and
6. Whether the nominated surface water is located within a Navajo Nation park, National Monument, wilderness area, conservation area, area of critical environmental concern, or within another area with special use designation.

§ ~~208~~ 210 VARIANCES

A. The Director may grant a variance from a water quality standard for a point source discharge provided the discharger demonstrates that treatment more advanced than that required to comply with technology-based effluent limitations is necessary to comply with the water quality standard and:

1. It is not technically feasible to achieve compliance within the next three years; or
2. The cost of the treatment would result in substantial and widespread economic and social impact.

B. A variance may be granted only on a pollutant-specific basis. A point source discharge is required to comply with all other applicable water quality standards for which a variance is not granted.

C. A variance applies only to a specific point source discharge. The granting of a variance does not modify a water quality standard. Other point source dischargers to the surface water shall comply with applicable water quality standards, including any water quality standard for which a variance has been granted for a specific point source discharge.

D. A variance is for a fixed term not to exceed three years. Variances are not renewable but may be reissued upon adequate justification.

E. The Director shall reevaluate a variance upon the issuance, reissuance, or modification of the National Pollutant Discharge Elimination System permit for the point source discharge.

F. A person who seeks a variance from a water quality standard shall submit a letter to the Director requesting a variance. A request for a variance shall include the following information:

1. Identification of the specific pollutant and water quality standard for which a variance is sought;

2. Identification of the receiving surface water;

3. For an existing point source discharge, a detailed description of the existing discharge control technologies that are used to achieve compliance with applicable water quality standards. For a new point source discharge, a detailed description of the proposed discharge control technologies that will be used to achieve compliance with applicable water quality standards;

4. Documentation that the existing or proposed discharge control technologies will comply with applicable technology-based effluent limitations and that more advanced treatment technology is necessary to achieve compliance with the water quality standard for which a variance is sought;

5. A detailed discussion of the reasons why compliance with the water quality standard cannot be achieved;

6. A detailed discussion of the discharge control technologies that are available for achieving compliance with the water quality standard for which a variance is sought;

7. Documentation of one or both of the following:

   a. That it is not technically feasible to install and operate any of the available discharge control technologies to achieve compliance with the water quality standard for which a variance is sought; or

   b. That installation and operation of each of the available discharge technologies to achieve compliance with the water quality standard would result in substantial and widespread economic and social impact;

8. Documentation that the point source discharger has reduced, to the maximum extent practicable, the discharge of the pollutant for which a variance is sought through implementation of pretreatment, source reduction, or waste minimization program;

9. A detailed description of proposed interim discharge limitations that represent the highest level of treatment achievable by the point source discharge during the term of the variance. Interim discharge limitations shall not be less stringent than technology-based effluent limitations.

G. In making a decision on whether to grant or deny the request for a variance, the Director shall consider the following factors: bioaccumulation, bioconcentration, predicted

exposure on biota and the likelihood that resident biota will be adversely affected, the known or predicted safe exposure levels for the pollutant of concern, and the likelihood of adverse human health effects.

H. The Director shall issue public notice and shall provide an opportunity for a public hearing on whether the request for a variance should be granted or denied.

I. The Director shall not grant a variance for a point source discharge to a ~~Unique~~ Exceptional Water of the Navajo Nation.

J. A variance is subject to review and approval by the Regional Administrator.

§ ~~209~~ 211 WASTEWATER MIXING ZONES

A. A wastewater mixing zone is a defined and limited part of a surface water body with defined boundaries adjacent to a point source of pollution, in which initial dilution of wastewater occurs, and in which certain numeric water quality standards may apply. All mixing zones are subject to the following requirements:

1. Mixing zones shall be limited to perennial streams, lakes and reservoirs;

2. All mixing zones shall have defined boundaries, beyond which applicable water quality standards shall be met;

3. In no instance shall narrative water quality standards described in §202 of this document be violated;

4. In no instance shall the concentration of any toxic pollutant exceed the aquatic and wildlife ~~habitat~~ acute numeric standard for the pollutant. The aquatic and wildlife ~~habitat~~ acute numeric standard for all toxic pollutants shall be met at the point of discharge;

5. In perennial streams, a continuous zone of passage around a mixing zone shall be maintained in which all applicable water quality standards are met, and which provides for migration of aquatic life without exposure to pollutant concentrations that exceed chronic toxicity for aquatic and wildlife ~~habitat~~ numeric standards. The zone of passage shall be at least 50 % of the cross-sectional area of the stream;

6. In no instance shall mixing zones constitute more than 10% of the surface area of a lake or reservoir; boundaries of adjacent mixing zones in a lake or reservoir shall be no closer that the largest horizontal dimension of either mixing zone; and

7. A mixing zone is prohibited for the following persistent, bioaccumulative

pollutants:

a) Chlordane,
b) DDT and its metabolites (DDD and DDE),
c) Dieldrin,
d) Dioxin,
e) Endrin,
f) Endrin aldelhyde,
g) Heptachlor,
h) Heptachlor epoxide,
i) Lindane,
j) Mercury,
k) PCBs, and
l) Toxaphene.

B. The Navajo Nation shall consider the requirements in subsections 1 through 6 in determining whether to grant or deny a mixing zone.

C. The water quality criteria in these regulations shall apply within a mixing zone unless specific alternative criteria have been approved by the Navajo Nation Environmental Protection Agency and concurred upon by the U.S. Environmental Protection Agency. Mixing zones shall not be granted in lieu of reasonable control measures to reduce point source pollutant discharges but will be granted to complement such control measures. A limited mixing zone, serving as a zone of initial dilution in the immediate area of a point source of pollution, may be allowed if the conditions set out in this part are met.

§ 212 SITE-SPECIFIC STANDARDS

A. The Director shall adopt a site-specific standard by rule.

B. The Director may modify an existing water quality standard to protect aquatic life to be more or less stringent or adopt a new site-specific standard for any of the following reasons:

1. Local physical, chemical, or hydrological conditions of a surface water such as pH, hardness, or temperature alters the biological availability or toxicity of a pollutant.

2. The sensitivity of resident aquatic organisms that occur in a surface water to a pollutant differs from the sensitivity of the species used to derive the numeric water quality standards to protect aquatic life in Table 207.1.

3. Resident aquatic organisms that occur in a surface water represent a narrower mix of species than those in the dataset used by Navajo Nation EPA to derive numeric water quality standards to protect aquatic life in Table 207.1; or

4. The natural background concentration of a pollutant is greater than the numeric water quality standard to protect aquatic life prescribed in Table 207.1.

C. A site-specific standard shall be supported by a site-specific standards study. A site-specific standard study shall be conducted according to approved procedures, including any of the following:

1. The Recalculation Procedure,

2. Water-Effects Ratio Procedure,

3. Resident Species Procedure,

4. Streamlined Water Effects Ratio Procedure for Discharges of Copper, and

5. Natural Background Determination Procedures.

D. The Recalculation, Water-Effects Ratio and Resident Species procedures are contained in §3.7 and Appendix L of the Water Quality Standards Handbook, Second Edition, U.S. Environmental Protection Agency, Office of Water, EPA 823-8-94-005a, (August 1994) (and no future editions). The Streamlined Water Effects Ratio Procedure for Copper is contained in "Streamlined Water-Effect Ratio Procedure for Discharges of Copper," U.S. Environmental Protection Agency, Office of Water, (EPA-822-R-01-005) (March, 2001) (and no future editions) which are incorporated by reference.

E. The Director may establish a site-specific standard based on the natural background condition. For purposes of this subsection, "natural background" means the background concentration of a pollutant in a surface water due only to non-anthropogenic sources. A site-specific standard based on the natural background condition shall be established at a concentration that is equal to the natural background concentration. A determination of natural background shall:

1. Consider natural spatial and temporal variability as appropriate;

2. Document the natural sources of the pollutant;

3. Document the absence of human sources of the pollutant or quantify the human

contribution; and

4. Rely on analytical methods, statistical methods and/or modeling methods to quantify the natural background.

F. The Director shall not adopt site-specific standards to protect human health.

§ 213 NATURAL BACKGROUND

Where the concentration of a pollutant exceeds a water quality standard and the exceedence is not caused by human activity but is due solely to naturally-occurring conditions, the exceedance shall not be considered a violation of the water quality standard.

§ ~~210~~ 214 BIOLOGICAL STANDARDS (RESERVED)

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W	Livestock Watering (LW)
Big Canyon, ephemeral reaches	Little Colorado	Lower Colorado-Marble Canyon			ScHC	AgWS		A&W	LW
Big Canyon, perennial and intermittent reaches	Little Colorado	Lower Colorado-Marble Canyon		PrHC	ScHC	AgWS	FC	A&W	LW
Salt Trail Canyon, ephemeral reaches	Little Colorado	Lower Colorado-Marble Canyon			ScHC	AgWS		A&W	LW
Salt Trail Canyon, perennial and intermittent reaches	Little Colorado	Lower Colorado-Marble Canyon		PrHC	ScHC	AgWS	FC	A&W	LW
Tatahatso Wash, ~~mouth to headwaters,~~ ephemeral reaches	Lower Colorado	Lower Colorado-Marble Canyon			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Tatahatso Wash, ~~mouth to headwaters,~~ perennial and intermittent reaches	Lower Colorado	Lower Colorado-Marble Canyon		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Shinumo Wash, ~~mouth to headwaters~~ ephemeral reaches	Lower Colorado	Lower Colorado-Marble Canyon			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Shinumo Wash, ~~mouth to headwaters~~ perennial and intermittent reaches	Lower Colorado	Lower Colorado-Marble Canyon		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Tiger Wash, ~~mouth to headwaters~~ ephemeral reaches	Lower Colorado	Lower Colorado-Marble Canyon			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Tiger Wash, ~~mouth to headwaters~~ perennial and intermittent reaches	Lower Colorado	Lower Colorado-Marble Canyon		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Tanner Wash, ~~mouth to headwaters~~ ephemeral reaches	Lower Colorado	Lower Colorado-Marble Canyon			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Tanner Wash, ~~mouth to headwaters~~ perennial and intermittent reaches	Lower Colorado	Lower Colorado-Marble Canyon		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Colorado River, ~~mouth of Little Colorado River to mouth of Paria River~~ warm water reaches	Lower Colorado and Upper Colorado	Lower Colorado-Marble Canyon and Lower Lake Powell	Dom	PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Colorado River, cold water reaches	Lower Colorado and Upper Colorado	Lower Colorado-Marble Canyon and Lower Lake Powell	Dom	PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
~~Colorado River- mouth of Paria River to Glen Canyon Dam~~	~~Upper Colorado~~	~~Lower Lake Powell~~	~~Dom~~	~~PrHC~~	~~ScHC~~	~~AgWS~~	~~FC~~	~~A&WHbt~~ ~~A&W~~	~~LW~~
Antelope Creek, ~~Lake Powell shoreline at elevation 3720 feet to headwaters~~ ephemeral reaches	Upper Colorado	Lower Lake Powell		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Antelope Creek, perennial and intermittent reaches	Upper Colorado	Lower Lake Powell		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Kaibito Creek, ~~Lake Powell shoreline at elevation 3720 feet to headwaters~~ ephemeral reaches	Upper Colorado	Lower Lake Powell		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	**Basin**	**Cataloging Unit**	**Domestic Water Supply (Dom)**	**Primary Human Contact (PrHC)**	**Secondary Human Contact (ScHC)**	**Agricultural Water Supply (AgWS)**	**Fish Consumption (FC)**	**Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W**	**Livestock Watering (LW)**
Kaibito Creek, perennial and intermittent reaches	Upper Colorado	Lower Lake Powell		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Navajo Creek ~~Lake Powell shoreline at elevation 3720 feet to headwaters~~ ephemeral reaches	Upper Colorado	Lower Lake Powell		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Navajo Creek, perennial and intermittent reaches	Upper Colorado	Lower Lake Powell		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Aztec Creek, ~~Lake Powell shoreline at elevation 3720 feet to headwaters~~ ephemeral reaches	Upper Colorado	Lower Lake Powell		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Aztec Creek, ~~perennial and intermittent reaches~~	Upper Colorado	Lower Lake Powell		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Little Colorado River, mouth to origin of perennial flow (between mouth of Lee Canyon and USGS Gaging Station)	Little Colorado	Lower Little Colorado	Dom	PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Little Colorado River, ~~origin of perennial flow to Navajo Nation boundary~~ ephemeral reaches	Little Colorado	Lower Little Colorado	~~Dom~~	~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Little Colorado River, perennial and intermittent reaches	Little Colorado	Lower Little Colorado		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Lee Canyon, ~~mouth to headwaters~~ ephemeral reaches	Little Colorado	Lower Little Colorado			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Lee Canyon, perennial and intermittent reaches	Little Colorado	Lower Little Colorado		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Moenkopi Wash, ~~mouth to headwaters~~ ephemeral reaches	Little Colorado	Moenkopi Wash			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Moenkopi Wash, perennial and intermittent reaches	Little Colorado	Moenkopi Wash		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Hamblin Wash, ~~mouth to headwaters~~ ephemeral reaches	Little Colorado	Moenkopi Wash			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Hamblin Wash, perennial and intermittent reaches	Little Colorado	Moenkopi Wash		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Begashibito Wash, ~~mouth to headwaters~~ ephemeral reaches	Little Colorado	Moenkopi Wash			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Begashibito Wash, perennial and intermittent reaches	Little Colorado	Moenkopi Wash		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Shonto Wash, ~~mouth to headwaters~~ ephemeral reaches	Little Colorado	Moenkopi Wash			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Shonto Wash, perennial and intermittent reaches	Little Colorado	Moenkopi Wash		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W	Livestock Watering (LW)
Cow Springs Lake	Little Colorado	Moenkopi Wash		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
White Mesa Lake	Little Colorado	Moenkopi Wash		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Tappan Wash, ~~mouth to headwaters~~ ephemeral reaches	Little Colorado	Lower Little Colorado			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Tappan Wash, ~~mouth to headwaters~~ perennial and intermittent reaches	Little Colorado	Lower Little Colorado		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Cedar Wash, ~~mouth to headwaters~~ ephemeral reaches	Little Colorado	Lower Little Colorado			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Cedar Wash, ~~mouth to headwaters~~ perennial and intermittent reaches	Little Colorado	Lower Little Colorado		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Deadman Wash, ~~mouth to headwaters~~ ephemeral reaches	Little Colorado	Lower Little Colorado			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Canyon Diablo, ~~mouth to Navajo Nation boundary~~ ephemeral reaches	Little Colorado	Canyon Diablo			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Canyon Diablo, perennial and intermittent reaches	Little Colorado	Canyon Diablo		PrHC	ScHC	AgWS	FC	A&W	LW
San Francisco Wash, ~~mouth to Navajo Nation boundary~~ ephemeral reaches	Little Colorado	~~Lower Little Colorado~~ Canyon Diablo			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
San Francisco Wash, perennial and intermittent reaches	Little Colorado	Canyon Diablo		PrHC	ScHC	AgWS	FC	A&W	LW
Padre Canyon, ~~mouth to Navajo Nation boundary~~ ephemeral reaches	Little Colorado	~~Lower Little Colorado~~ Canyon Diablo			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Padre Canyon, perennial and intermittent reaches	Little Colorado	Canyon Diablo		PrHC	ScHC	AgWS	FC	A&W	LW
Youngs Canyon, ~~mouth to Navajo Nation boundary~~ ephemeral reaches	Little Colorado	~~Lower Little Colorado~~ Canyon Diablo			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Youngs Canyon, perennial and intermittent reaches	Little Colorado	Canyon Diablo		PrHC	ScHC	AgWS	FC	A&W	LW
Yellow Jacket Canyon, ~~mouth to Navajo Nation boundary~~ ephemeral reaches	Little Colorado	~~Lower Little Colorado~~ Canyon Diablo			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Yellow Jacket Canyon, perennial and intermittent reaches	Little Colorado	Canyon Diablo		PrHC	ScHC	AgWS	FC	A&W	LW

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W	Livestock Watering (LW)
Dinnebito Wash, ~~within Navajo Nation boundary~~ ephemeral reaches	Little Colorado	Dinnebito Wash			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Dinnebito Wash, ~~within Navajo Nation boundary~~ perennial and intermittent reaches	Little Colorado	Dinnebito Wash		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
East Fork Dinnebito Wash, ephermeral reaches	Little Colorado	Dinnebito Wash			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
East Fork Dinnebito Wash, perennial and intermittent reaches	Little Colorado	Dinnebito Wash		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Corn Creek Wash, ~~within Navajo Nation boundary~~ ephemeral reaches	Little Colorado	Corn-Oraibi			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Corn Creek Wash, perennial and intermittent reaches	Little Colorado	Corn-Oraibi		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Oraibi Wash, ~~within Navajo Nation boundary~~ ephemeral reaches	Little Colorado	Corn-Oraibi			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Oraibi Wash, perennial and intermittent reaches	Little Colorado	Corn-Oraibi		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Polacca Wash, ~~within Navajo Nation boundary~~ ephemeral reaches	Little Colorado	Polacca Wash			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Pollaca Wash, perennial and intermittent reaches	Little Colorado	Polacca Wash		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Jeddito Wash, ~~within Navajo Nation boundary~~ ephemeral reaches	Little Colorado	Jeddito Wash			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Jeddito Wash, perennial and intermittent reaches	Little Colorado	Jeddito Wash		PrHC	ScHC	AgWS	FC	A&W	LW
Little Colorado River ephemeral reaches	Little Colorado	Middle Little Colorado			ScHC	AgWS		A&W	LW
Little Colorado River, perennial and intermittent reaches	Little Colorado	Middle Little Colorado		PrHC	ScHC	AgWS	FC	A&W	LW
Cottonwood Wash, ~~within Navajo Nation boundary~~ ephemeral reaches	Little Colorado	Cottonwood Wash			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Cottonwood Wash, ~~within Navajo Nation boundary~~ perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PrHC	ScHC	AgWS	FC	A&W	LW
Kinlichee Creek , ephemeral reaches	Little Colorado	Cottonwood Wash		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W	Livestock Watering (LW)
Kinlichee Creek , perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Scattered Willow Wash , ephemeral reaches	Little Colorado	Cottonwood Wash			ScHC	AgWS		A&W	LW
Scattered Willow Wash , perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PrHC	ScHC	AgWS	FC	A&W	LW
Black Soil Wash , ephemeral reaches	Little Colorado	Cottonwood Wash			ScHC	AgWS		A&W	LW
Black Soil Wash , perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PrHC	ScHC	AgWS	FC	A&W	LW
Willow Creeek , ephemeral reaches	Little Colorado	Cottonwood Wash			ScHC	AgWS		A&W	LW
Willow Creek, perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PrHC	ScHC	AgWS	FC	A&W	LW
Ganado Lake	Little Colorado	Cottonwood Wash		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Pueblo Colorado Wash, ephemeral reaches	Little Colorado	Cottonwood Wash		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Pueblo Colorado Wash, perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PrHC	ScHC	AgWS	FC	A&W	LW
Leroux Wash, ~~within Navajo Nation boundary~~, ephemeral reaches	Little Colorado	Leroux Wash			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Leroux Wash, perennial and intermittent reaches	Little Colorado	Cottonwood Wash		PrHC	ScHC	AgWS	FC	A&W	LW
Antelope Lake (cold water)	Little Colorado	Leroux Wash		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Puerco River, ~~within Navajo Nation boundary~~, ephemeral reaches	Little Colorado	Upper Puerco & Lower Puerco	~~Dom~~		ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Puerco River, perennial and intermittent reaches	Little Colorado	Upper Puerco & Lower Puerco		PrHC	ScHC	AgWS	FC	A&W	LW
Black Creek, ~~mouth to headwaters.~~ ephemeral reaches	Little Colorado	Upper Puerco		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Black Creek, perennial and intermittent reaches	Little Colorado	Upper Puerco		PrHC	ScHC	AgWS	FC	A&W	LW
Tohdildonih Wash, ephemeral reaches ~~mouth to Asaayi Lake~~	Little Colorado	Upper Puerco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Tohdildonih Wash, perennial and intermittent reaches	Little Colorado	Upper Puerco		PrHC	ScHC	AgWS	FC	A&W	LW
Asaayi Lake (cold water)	Little Colorado	Upper Puerco		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W	Livestock Watering (LW)
Asaayi ~~(Bowl)~~ Creek, ephemeral reaches ~~Asaayi Lake to headwaters~~	Little Colorado	Upper Puerco		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Asaayi Creek, perennial and intermittent reaches	Little Colorado	Upper Puerco		PrHC	ScHC	AgWS	FC	A&W	LW
Asaayi ~~(Bowl)~~ Creek - East Fork, ephemeral reaches	Little Colorado	Upper Puerco		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Asaayi ~~(Bowl)~~ Creek - East Fork, perennial and intermittent reaches	Little Colorado	Upper Puerco		PrHC	ScHC	AgWS	FC	A&W	LW
Bonito Creek, ephemeral reaches	Little Colorado	Upper Puerco		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Bonito Creek, perennial and intermittent reaches	Little Colorado	Upper Puerco		PrHC	ScHC	AgWS	FC	A&W A&W	LW
Red Lake	Little Colorado	Upper Puerco		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Trout Lake (cold water)	Little Colorado	Upper Puerco		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Rio Pescado, ~~within Navajo,~~ ephemeral reaches ~~Nation boundary~~	Little Colorado	Zuni River		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Rio Pescado, perennial and intermittent reaches	Little Colorado	Zuni River		PrHC	ScHC	AgWS	FC	A&W	LW
Zuni River tributaries ~~within,~~ ephemeral reaches ~~Navajo Nation boundary~~	Little Colorado	Zuni River			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Zuni River tributaries, perennial and intermittent reaches	Little Colorado	Zuni River		PrHC	ScHC	AgWS	FC	A&W	LW
Arroyo Chico and tributaries ~~within Navajo Nation boundary,~~ ephemeral reaches	Rio Grande	Arroyo Chico			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Arroyo Chico and tributaries perennial and intermittent reaches	Rio Grande	Arroyo Chico		PrHC	ScHC	AgWS	FC	A&W	LW
Torreon Wash ~~within,~~ ephemeral reaches ~~Navajo Nation boundary~~	Rio Grande	Arroyo Chico			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Torreon Wash, perennial and intermittent reaches	Rio Grande	Arroyo Chico		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Unnamed ephemeral tributaries and playas ~~within Navajo Nation boundary~~	Rio Grande	North Plains			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Unnamed perennial and intermittent tributaries and playas ~~within Navajo Nation~~	Rio Grande	North Plains		PrHC	ScHC	AgWS	FC	A&W	LW
Rio Puerco and tributaries ~~within,~~ ephemeral reaches ~~Navajo Nation boundary~~	Rio Grande	Rio Puerco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W	Livestock Watering (LW)
Rio Puerco and tributaries perennial and intermittent reaches	Rio Grande	Rio Puerco		PrHC	ScHC	AgWS	FC	A&W	LW
Rio Salado and tributaries ~~within,~~ ephemeral reaches ~~Navajo Nation boundary~~	Rio Grande	Rio Salado			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Rio Salado and tributaries perennial and intermittent reaches	Rio Grande	Rio Salado		PrHC	ScHC	AgWS	FC	A&W	LW
Alamo Creek ~~within,~~ ephemeral reaches ~~Navajo Nation boundary~~	Rio Grande	Rio Salado		PrHC	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Alamo Creek, perennial and intermittent reaches	Rio Grande	Rio Salado		PrHC	ScHC	AgWS	FC	A&W	LW
Rio San Jose ephemeral tributaries ~~within Navajo Nation boundary~~	Rio Grande	Rio San Jose			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Rio San Jose perennial and intermittent tributaries	Rio Grande	Rio San Jose		PrHC	ScHC	AgWS	FC	A&W	LW
Bluewater Creek ~~within,~~ ephemeral reaches ~~Navajo Nation boundary~~	Rio Grande	Rio San Jose		PrHC	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
San Juan River ~~and perennial tributaries (except as listed below)~~	San Juan	~~*Numerous*~~ Lower San Juan Four Corners	Dom	PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
~~Non perennial~~ Ephemeral tributaries to the San Juan River (except as listed below)	San Juan	~~*Numerous*~~ Lower San Juan Four Corners			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed below)	San Juan	Lower San Juan Four Corners		PrHC	ScHC	AgWS	FC	A&W	LW
Desert Creek, ephemeral reaches	San Juan	Lower San Juan Four Corners			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Desert Creek, perennial and intermittent reaches	San Juan	Lower San Juan Four Corners		PrHC	ScHC	AgWS	FC	A&W	LW
Gothic Creek, ephemeral reaches	San Juan	Lower San Juan Four Corners			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Gothic Creek, perennial and intermittent reaches	San Juan	Lower San Juan Four Corners		PrHC	ScHC	AgWS	FC	A&W	LW
McCraken Canyon ~~within,~~ ephemeral reaches ~~Navajo Nation boundary~~	San Juan	Lower San Juan Four Corners			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
McCraken Canyon, perennial and intermittent reaches	San Juan	Lower San Juan Four Corners		PrHC	ScHC	AgWS	FC	A&W	LW
Teec Nos Pos Wash ~~(perrenial)~~, perennial and intermittent reaches	San Juan	Lower San Juan Four Corners		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Teec Nos Pos Wash ~~(non perrenial)~~ ephemeral reaches	San Juan	Lower San Juan Four Corners			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W	Livestock Watering (LW)
Toh Dahstini Wash ephemeral reaches	San Juan	Lower San Juan Four Corners			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Toh Dahstini Wash perennial and intermittent reaches	San Juan	Lower San Juan Four Corners		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
San Juan River	San Juan	Lower San Juan River	Dom	PrHC	ScHC	AgWS	FC	A&W	LW
Ephemeral tributaries to the San Juan River (except as listed below)	San Juan	Lower San Juan River			ScHC	AgWS		A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed below)	San Juan	Lower San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Cha Canyon - perrenial reaches	San Juan	Lower San Juan River	Dom	PrHC	ScHC	AgWS	FC	A&W	LW
Cha Canyon - intermittent reaches	San Juan	Lower San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Cha Canyon - ephemeral reaches	San Juan	Lower San Juan River			ScHC	AgWS		A&W	LW
Gypsum Creek, ~~mouth to headwaters,~~ ephemeral reaches	San Juan	Lower San Juan River			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Gypsum Creek, perennial and intermittent reaches	San Juan	Lower San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Nokai Canyon, ~~shore of Lake Powell at elevation 3720 feet to headwaters,~~ ephemeral reaches	San Juan	Lower San Juan River			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Nokai Canyon, perennial and intermittent reaches	San Juan	Lower San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Oljeto Wash, ~~mouth to headwaters,~~ ephemeral reaches	San Juan	Lower San Juan River			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Oljeto Wash, ~~mouth to headwaters~~ perennial and intermittent reaches	San Juan	Lower San Juan River		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Piute Canyon, ephemeral reaches	San Juan	Lower San Juan River			ScHC	AgWS		A&W	LW
Piute Canyon, perennial and intermittent reaches	San Juan	Lower San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
San Juan River	San Juan	Middle San Juan River	Dom	PrHC	ScHC	AgWS	FC	A&W	LW
Ephemeral tributaries to the San Juan River (except as listed below)	San Juan	Middle San Juan River			ScHC	AgWS		A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed below)	San Juan	Middle San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W	Livestock Watering (LW)
Baker Arroyo, ephemeral reaches	San Juan	Middle San Juan River			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Baker Arroyo, perennial and intermittent reaches	San Juan	Middle San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Cove Wash, ephemeral reaches	San Juan	Middle San Juan River			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Cove Wash, perennial and intermittent reaches	San Juan	Middle San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Eagle Nest Arroyo, ephemeral reaches	San Juan	Middle San Juan River			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Eagle Nest Arroyo, perennial and intermittent reaches	San Juan	Middle San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Pine Wash, ephemeral reaches	San Juan	Middle San Juan River			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Pine Wash, perennial and intermittent reaches	San Juan	Middle San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Ojo Amarillo, ephemeral reaches	San Juan	Middle San Juan River		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Ojo Amarillo, perennial and intermittent reaches	San Juan	Middle San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Salt Creek Wash, ephemeral reaches	San Juan	Middle San Juan River			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Salt Creek Wash, perennial and intermittent reaches	San Juan	Middle San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Standing Redrock Creek ~~Wash,~~ ephemeral reaches	San Juan	Middle San Juan River			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Standing Redrock Creek, perennial and intermittent reaches	San Juan	Middle San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Red Wash, ephemeral reaches	San Juan	Middle San Juan River			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Red Wash, perennial and intermittent reaches	San Juan	Middle San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
San Juan River	San Juan	Upper San Juan River	Dom	PrHC	ScHC	AgWS	FC	A&W	LW
Ephemeral tributaries to the San Juan River (except as listed below)	San Juan	Upper San Juan River			ScHC	AgWS		A&W	LW
Perennial and intermittent tributaries to the San Juan River (except as listed below)	San Juan	Upper San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W	Livestock Watering (LW)
Gallegos Canyon, ephemeral reaches	San Juan	Upper San Juan River		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Gallegos Canyon, perennial and intermittent reaches	San Juan	Upper San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
West Fork Gallegos Canyon, ephemeral reaches	San Juan	Upper San Juan River		~~PrHC~~	ScHC	AgWS		A&W	LW
West Fork Gallegos Canyon, perennial and intermittent reaches	San Juan	Upper San Juan River		PrHC	ScHC	AgWS	FC	A&W	LW
Blanco Canyon, ephemeral reaches	San Juan	Blanco Canyon			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Blanco Canyon, perennial and intermittent reaches	San Juan	Blanco Canyon		PrHC	ScHC	AgWS	FC	A&W	LW
Largo Canyon, ephemeral reaches	San Juan	Blanco Canyon			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Largo Canyon, perennial and intermittent reaches	San Juan	Blanco Canyon		PrHC	ScHC	AgWS	FC	A&W	LW
Cutter Dam Reservoir (cold and warm water)	San Juan	Blanco Canyon		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Chaco River/Chaco Wash, ~~mouth to mouth of Dead Man's Wash~~ perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Chaco River/Chaco Wash, ~~mouth of~~ ephemeral reaches ~~Dead Man's Wash to Navajo Nation boundary~~	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Dead Man's Wash, ~~mouth to headwaters~~ ephemeral reaches	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Dead Man's Wash, perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Chinde Wash, ~~mouth to headwaters,~~ ephemeral reaches	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Chinde Wash, perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Cottonwood Arroyo, ~~mouth~~ ephemeral reaches ~~to headwaters~~	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Cottonwood Arroyo, perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Sanostee Wash, perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Sanostee Wash (~~non perennial~~ ephemeral reaches)	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Tocito Wash, ~~mouth to headwaters,~~ ephemeral reaches	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	**Basin**	**Cataloging Unit**	**Domestic Water Supply (Dom)**	**Primary Human Contact (PrHC)**	**Secondary Human Contact (ScHC)**	**Agricultural Water Supply (AgWS)**	**Fish Consumption (FC)**	**Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W**	**Livestock Watering (LW)**
Tocito Wash, perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Brimhall Wash, ~~mouth to Navajo~~ ephemeral reaches ~~Nation boundary~~	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Brimhall Wash, perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	**A&W**	LW
Captain Tom Wash, perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Captain Tom Wash (~~non perennial~~ ephemeral reaches)	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Captain Tom Reservoir	San Juan	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Hunter Wash, ~~mouth to Navajo~~ ephemeral reaches ~~Nation boundary~~	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Hunter Wash, perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Sheep Springs Wash, ~~mouth~~ ephemeral reaches ~~to headwaters~~	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Sheep Springs Wash, perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Coyote Wash, ~~mouth to headwaters,~~ ephemeral reaches	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Coyote Wash, perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Indian Creek, ~~within Navajo,~~ ephemeral reaches ~~Nation boundary~~	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Indian Creek, perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Red Willow Wash, ~~,~~ ephemeral reaches ~~Nation boundary~~	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Red Willow Wash, perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
De Na Zin Wash, ~~mouth to Navajo~~ ephemeral reaches ~~Nation boundary~~	San Juan	Chaco			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
De Na Zin Wash, perennial and intermittent reaches	San Juan	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Berland Lake (cold water)	San Juan	Chaco		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Chuska Lake (cold water)	San Juan	Chaco		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Morgan Lake	San Juan	Chaco		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Whiskey Lake (cold water)	San Juan	Chaco		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W	Livestock Watering (LW)
Toadlena Fish Hatchery un-named ephemeral tributaries	San Juan	Chaco			ScHC	AgWS		A&W	LW
Toadlena Fish Hatchery un-named intermittent and perennial tributaries	San Juan	Chaco		PrHC	ScHC	AgWS	FC	A&W	LW
Whiskey Lake (cold water)	San Juan	Chaco		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Alcove Canyon, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Alcove Canyon, ephemeral reaches	San Juan	Chinle			ScHC	AgWS		A&W	LW
White Rock Wash, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
White Rock Wash, ephemeral reaches	San Juan	Chinle			ScHC	AgWS		A&W	LW
Chinle Creek/Chinle Wash, ~~mouth to mouth of Canyon de Chelly, ephemeral reaches~~	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Many Farms Lake	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~	LW
Chinle Creek/Chinle Wash, ~~mouth to mouth of Canyon de Chelly, ephemeral reaches~~	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Many Farms Lake	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Walker Creek, perennial and intermittent reaches, ~~mouth to headwaters~~	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Walker Creek, ~~nonperennial~~ ephemeral reaches, ~~mouth to headwaters~~	San Juan	Chinle			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Bubbling Springs Canyon, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Bubbling Springs Canyon, ephemeral reaches	San Juan	Chinle			ScHC	AgWS		A&W	LW
Long Canyon, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Long Canyon, ephemeral reaches	San Juan	Chinle			ScHC	AgWS		A&W	LW
Dowozhiebito Canyon, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Dowozhiebito Canyon, ephemeral reaches	San Juan	Chinle			ScHC	AgWS		A&W	LW
Laguna Creek, perennial and intermittent reaches, ~~mouth to headwaters~~	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Laguna Creek, ~~nonperennial~~ ephemeral reaches, ~~mouth to headwaters~~	San Juan	Chinle			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Tyende Creek, ~~mouth to headwaters,~~ ephemeral reaches	San Juan	Chinle			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Tyende Creek, ~~mouth to headwaters~~ perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Lukachukai Wash, perennial reaches, ~~mouth to headwaters~~	San Juan	Chinle	Dom	PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W	Livestock Watering (LW)
Lukachukai Wash, ~~non-~~perennial and intermittent reaches, ~~mouth to headwaters~~	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Lukachukai Wash, ephemeral reaches,	San Juan	Chinle			ScHC	AgWS	~~FC~~	A&W	LW
Black Mountain Wash, ephemeral reaches, ~~mouth to headwaters~~	San Juan	Chinle			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Black Mountain Wash, perennial and intermittent reaches,	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Nazlini Wash, perennial and intermittent reaches, ~~mouth to headwaters~~	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Nazlini Wash, ~~nonperennial~~ ephemeral reaches ~~mouth to headwaters~~	San Juan	Chinle			ScHC		~~FC~~	~~A&WHbt~~ A&W	LW
Cottonwood Wash, ~~mouth to headwaters,~~ ephemeral reaches	San Juan	Chinle			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Cottonwood Wash, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Balakai Wash, ~~mouth to headwaters,~~ ephemeral reaches	San Juan	Chinle			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Balakai Wash, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Canyon de Chelly Wash, ~~mouth to~~, ephemeral reaches ~~mouth of Coyote Wash~~	San Juan	Chinle		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Canyon de Chelly Wash, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Whiskey Creek, ~~mouth of Coyote,~~ ephemeral reaches ~~Wash to headwaters~~	San Juan	Chinle		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Whiskey Creek, ~~mouth of Coyote Wash to headwaters,~~ perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Wheatfields Lake	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Coyote Wash, ~~mouth to headwaters,~~ ephemeral reaches	San Juan	Chinle			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Coyote Wash, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Canyon del Muerto Wash, ~~mouth of~~, ephemeral reaches ~~Canyon de Chelly to Tsaile Lake~~	San Juan	Chinle		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Canyon del Muerto Wash, ~~mouth of Canyon de Chelly to Tsaile Lake~~ perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Tsaile Lake (cold and warm water)	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Tsaile Creek, ~~lake to headwaters,~~ ephemeral reaches	San Juan	Chinle		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Tsaile Creek, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW

Table ~~205.1~~ 206.1 Designated Uses for Navajo Nation Surface Waters (continued)

Surface Water Body (Within the jurisdiction of the Navajo Nation)	Basin	Cataloging Unit	Domestic Water Supply (Dom)	Primary Human Contact (PrHC)	Secondary Human Contact (ScHC)	Agricultural Water Supply (AgWS)	Fish Consumption (FC)	Aquatic & Wildlife ~~Habitat (A&WHbt)~~ A&W	Livestock Watering (LW)
Crystal Creek~~,~~ ephemeral reaches	San Juan	Chinle		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Crystal Creek, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Little Whiskey Creek~~,~~ ephemeral reaches	San Juan	Chinle		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Little Whiskey Creek, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Palisade Creek~~,~~ ephemeral reaches	San Juan	Chinle		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Palisade Creek, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Tohtso Creek~~,~~ ephemeral reaches	San Juan	Chinle		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Tohtso Creek, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Wheatfields Creek~~,~~ ephemeral reaches	San Juan	Chinle		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Wheatfields Creek, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Aspen Lake (cold water)	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
Round Rock Lake	San Juan	Chinle		PrHC	ScHC	AgWS	FC	~~A&WHbt~~ A&W	LW
McElmo Creek~~,~~ ephemeral reaches	San Juan	Chinle		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
McElmo Creek, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Montezuma Creek, ephemeral reaches	San Juan	Chinle		~~PrHC~~	ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Montezuma Creek, perennial and intermittent reaches	San Juan	Chinle		PrHC	ScHC	AgWS	FC	A&W	LW
Mancos River, ephemeral reaches	San Juan	Mancos River			ScHC	AgWS	~~FC~~	~~A&WHbt~~ A&W	LW
Mancos River, perennial and intermittent reaches	San Juan	Mancos River		PrHC	ScHC	AgWS	FC	A&W	LW

Table ~~206.1~~ 207.1. Numeric Surface Water Quality Standards

(All units are in µg/L unless otherwise indicated)

(All numeric standards are in total concentration unless otherwise indicated)

Parameter (Total concentration unless otherwise indicated)	CAS Number	Designated Uses: Domestic Water Supply	Fish Consumption	Primary Human Contact	Secondary Human Contact	Aquatic & Wildlife ~~Habitat~~ Acute	Aquatic & Wildlife ~~Habitat~~ Chronic	Agricultural Water Supply	Livestock Watering
1,1,1-Trichloroethane	71556	200	~~NCNS~~ 200000	200	200	2600	1600	~~NCNS~~ 1000	NCNS
1,1,2,2-Tetrachloroethane	79345	0.17	4 3	7	46670	4700	3200	NCNS	NCNS
1,1,2-Trichloroethane	79005	~~0.59~~ 0.55	~~16~~ 8.9	25	3730	18000	12000	NCNS	NCNS
1,1-Dichloroethene	75354	7	7100	230	12600	15000	950	NCNS	NCNS
1,2,4-Trichlorobenzene	120821	~~70~~ 0.071	~~70~~ 0.076	9300	9300	750	130	NCNS	NCNS
1,2,4,5-Tetrachlorobenzene	95943	0.03	0.03	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
1,2-Dichlorobenzene	95501	600	205	84000	84000	790	300	NCNS	NCNS
1,2-Dichloroethane	107062	0.38	35	15	186670	59000	41000	NCNS	NCNS
1,2-Dichloropropane	78875	0.50	15	126000	126000	26000	9200	NCNS	NCNS
1,2-Diphenylhydrazine	122667	0.036	0.2	1.8	1.8	130	11	NCNS	NCNS
1,2-trans-Dichloroethene	156605	100	~~10000~~ 4000	18670	18670	68000	3900	NCNS	NCNS
1,3-Dichlorobenzene	541731	~~320~~ 7	~~960~~ 10	NCNS	NCNS	2500	970	NCNS	NCNS
1,3-Dichloropropene	542756	~~0.34~~ 0.27	~~21~~ 12	90	420	3000	1100	NCNS	NCNS
1,4-Dichlorobenzene	106467	63	190	65330	65330	560	210	NCNS	NCNS
2-(2,4,5-Trichlorophenoxy) propnonic acid (2,4,5-TP)	93721	50	~~NCNS~~ 400	7470	7470	NCNS	NCNS	NCNS	NCNS
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	1746016	0.000000005	0.0000000051	0.00003	0.001	0.01	0.005	NCNS	NCNS
2,4,5-Trichlorophenol	95954	300	600	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
2,4,6-Trichlorophenol	88062	1.4	2.4	130	130	160	25	NCNS	NCNS
2,4-Dichlorophenol	120832	~~77~~ 10	~~290~~ 60	2800	2800	1000	88	NCNS	NCNS
2,4-Dichlorphenoxyacetic acid (2,4-D)	94757	70	~~NCNS~~ 12000	9330	9330	NCNS	NCNS	NCNS	NCNS
2,4-Dimethyl phenol	105679	~~380~~ 100	~~850~~ 171	18670	18670	1000	310	NCNS	NCNS
2,4-Dinitrophenol	51285	~~14~~ 10	~~1070~~ 300	1870	1870	110	9.2	NCNS	NCNS
2,4-Dinitrotoluene	121142	~~0.11~~ 0.049	~~3.4~~ 1.7	1870	1870	14000	860	NCNS	NCNS
2,6-Dinitrotoluene	606202	0.05	NCNS	2	3733	NCNS	NCNS	NCNS	NCNS
Di-n-octyl phthalate	117840	2800	NCNS	373333	373333	NCNS	NCNS	NCNS	NCNS
2-Chloroethyl vinyl ether	110758	NCNS	NCNS	NCNS	NCNS	180000	9800	NCNS	NCNS
2-Chloronaphthalene	91587	~~1000~~ 800	~~1600~~ 1000	74670	74670	NCNS	NCNS	NCNS	NCNS
2-Chlorophenol	95578	~~35~~ 30	30	4670	4670	2200	150	NCNS	NCNS
2-methyl-4,6-Dinitrophenol	534521	~~13~~ 2	~~280~~ 30	~~5600~~ 3733	~~5600~~ 3733	310	24	NCNS	NCNS

Table ~~206.1~~ 207.1. Numeric Surface Water Quality Standards (continued)

(All units are in µg/L unless otherwise indicated)

(All numeric standards are in total concentration unless otherwise indicated)

Parameter (Total concentration unless otherwise indicated)	CAS Number	Designated Uses: Domestic Water Supply	Fish Consumption	Primary Human Contact	Secondary Human Contact	Aquatic & Wildlife ~~Habitat~~ Acute	Aquatic & Wildlife ~~Habitat~~ Chronic	Agricultural Water Supply	Livestock Watering
3,3'-Dichlorobenzidine	91941	0.021	0.028	3.1	3.1	NCNS	NCNS	NCNS	NCNS
3-methyl 4-Chlorophenol	59507	~~NCNS~~ 500	~~NCNS~~ 2000	NCNS	NCNS	15	4.7	NCNS	NCNS
4-Bromophenyl phenyl ether	101553	NCNS	NCNS	NCNS	NCNS	180	14	NCNS	NCNS
4-Nitrophenol	100027	NCNS	NCNS	NCNS	NCNS	4100	3000	NCNS	NCNS
Acenaphthene	83329	~~670~~ 70	~~990~~ 90	56000	56000	850	550	NCNS	NCNS
Acrolein	107028	4 3	2	470	470	34	30	NCNS	NCNS
Acrylonitrile	107131	0.051	0.25	3	9300	3800	250	NCNS	NCNS
Aldrin	309002	~~0.000049~~ 0.00000077	~~0.00005~~ 0.00000077	0.08	30	3	NCNS	0.003	0.003
Alachlor	15972608	2		9333	9333	2500	170		
~~alpha-BHC~~ alpha-Hexacholorcyclohexane (HCH)	319846	~~0.0026~~ 0.00036	~~0.0049~~ 0.00039	0.22	7470	1600	130	NCNS	NCNS
alpha-Endosulfan	959988	~~40~~ 20	20	5600	5600	0.22	0.056	NCNS	NCNS
Aluminum (Al) (pH 6.5-9.0 for ~~AqHbt~~ A&W)	7429905	NCNS	NCNS	NCNS	NCNS	750 - **See (a)**	87 - **See (a)**	~~5000 D~~	NCNS
Ammonia-N	7664417	NCNS	NCNS	NCNS	NCNS	**See (c) and Tables ~~206.2~~ 207.19 and 207.20**	**See (c) and Table ~~206.3~~ 207.21**	NCNS	NCNS
Anthracene	120127	~~2100~~ 300	75	280000	280000	NCNS	NCNS	NCNS	NCNS
Antimony (Sb)	7440360	5.6	640	~~370~~ 747	~~370~~ 747	88 D	30 D	NCNS	NCNS
Arsenic (As)	7440382	10	80	30	280	340 D	150 D	2000	200
Asbestos (fibers/L > 10 µm)	1332214	7000000	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Atrazine	1912249	3	NCNS	32667	32667	NCNS	NCNS	NCNS	NCNS
Barium (Ba)	7440393	~~1000~~ 2000	NCNS	98000	98000	NCNS	NCNS	NCNS	NCNS
Benzene	71432	~~5~~ 0.5-2.1	~~51~~ 16-58	93	~~93~~ 3733	2700	180	NCNS	NCNS
Benzidine	92875	0.000086	0.00020	0.01	2800	1300	89	~~NCNS~~ 0.01	~~NCNS~~ 0.01
Benzo(a)anthracene	56553	~~0.0038~~ 0.0012	~~0.018~~ 0.0013	~~1~~ 0.2	~~NCNS~~ 0.2	NCNS	NCNS	NCNS	NCNS
Benzo(a)pyrene	50328	~~0.0038~~ 0.00012	~~0.018~~ 0.00013	~~1~~ 0.2	~~1~~ 0.2	NCNS	NCNS	NCNS	NCNS
Benzo(b)fluoranthene	205992	~~0.0038~~ 0.0012	~~0.018~~ 0.0013	~~1~~ 1.9	~~NCNS~~ 1.9	NCNS	NCNS	NCNS	NCNS
Benzo(k)fluoranthene	207089	0.0038	0.018	~~1~~ 1.9	~~NCNS~~ 1.9	NCNS	NCNS	NCNS	NCNS
Beryllium (Be)	7440417	4	85	1870	1870	NCNS	NCNS	NCNS	NCNS
~~beta-BHC~~ beta-Hexacholorcyclohexane (HCH)	319857	~~0.02~~ 0.0080	~~0.02~~ 0.014	3	560	1600	130	NCNS	NCNS
beta-Endosulfan	33213659	~~40~~ 20	20	5600	5600	0.22	0.056	NCNS	NCNS
Beta particles and photon emitters		4 millirems/year	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Bis(2-chloroethyl)ether	111444	0.030	0.53	1.3	1.3	120000	6700	NCNS	NCNS
Bis(2-chloroisopropyl)ether	108601	~~1400~~ 200	~~65000~~ 3441	~~56000~~ 37333	~~56000~~ 37333	NCNS	NCNS	NCNS	NCNS

Table ~~206.1~~ 207.1. Numeric Surface Water Quality Standards (continued)

(All units are in µg/L unless otherwise indicated)

(All numeric standards are in total concentration unless otherwise indicated)

Parameter (Total concentration unless otherwise indicated)	CAS Number	Designated Uses: Domestic Water Supply	Fish Consumption	Primary Human Contact	Secondary Human Contact	Aquatic & Wildlife ~~Habitat~~ Acute	Aquatic & Wildlife ~~Habitat~~ Chronic	Agricultural Water Supply	Livestock Watering
Bis(2-ethylhexyl) adipate	103231	400	NCNS	560000	560000	NCNS	NCNS	NCNS	NCNS
Bis(2-ethylhexyl)phthalate	117817	~~1.2~~ 0.32	~~2.2~~ 0.37	~~330~~ 1200	18670	400	360	NCNS	NCNS
Bis(Chloromethyl) ether	542881	0.00015	0.017	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Boron	7440428	~~630~~ 1400	NCNS	126000	126000	NCNS	NCNS	~~1000~~ 2000	5000 ~~D~~
Bromoform	75252	4.3	~~140~~ 120	180	28000	15000	10000	NCNS	NCNS
Butyl benzyl phthalate	85687	~~1500~~ 0.10	~~1900~~ 0.10	186670	186670	1700	130	NCNS	NCNS
Cadmium (Cd)	7440439	5	8	470	470	**~~(a)~~ See (b) and Tables 207.2 and 207.4 D**	**~~(a)~~ See (b) and Tables 207.3 and 207.5 D**	50	50
Carbon tetrachloride	56235	0.23	1.6	40	650	18000	1100	NCNS	NCNS
Chlordane	57749	~~0.0008~~ 0.00031	~~0.00081~~ 0.00032	13	470	2.4	0.0043	NCNS	NCNS
Chlorine (total residual)	7782505	4000	NCNS	4000	4000	19	11	NCNS	~~11~~ NCNS
Chlorobenzene	108907	100	~~1550~~ 800	18670	18670	3800	260	NCNS	NCNS
Chlorodibromomethane	124481	0.40	13	18670	18670	NCNS	NCNS	NCNS	NCNS
Chloroform	67663	5.7	470	9330	9330	14000	900	NCNS	NCNS
Chromium (Cr III + Cr VI)	7440473	100	NCNS	NCNS	NCNS	NCNS	NCNS	1000	1000
Chromium III (Cr III)	16065831	NCNS	75000	1400000	1400000	**~~(b)~~ See (b) and Table 207.6 D**	**~~(b)~~ See (a) and Table 207.7 D**	NCNS	NCNS
Chromium VI (Cr VI)	18540299	20	150	2800	2800	16 D	11 D	NCNS	NCNS
Chrysene	218019	0.0038	0.018	1	NCNS	NCNS	NCNS	NCNS	NCNS
Cobalt (Co)	7440484	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	~~50 D~~ 5000	1000 ~~D~~
Copper (Cu)	7440508	1300	NCNS	9330	9330	**~~(c)~~ See (b) and Table 207.8 D**	**~~(c)~~ See (b) and Table 207.9 D**	~~200 D~~ 5000	500 ~~D~~
Cyanide (as free Cyanide)	57125	~~200~~ 4	140	18670	18670	22	5.2	NCNS	~~5.2~~ 200
delta-BHC	319868	0.0123	0.0414	NCNS	NCNS	1600	130	NCNS	NCNS
Dibenzo(a,h)anthracene	53703	~~0.0038~~ 0.00012	~~0.018~~ 0.00013	1	NCNS	NCNS	NCNS	NCNS	NCNS
Dibutyl phthalate	84742	~~700~~ 20	~~900~~ 30	93330	93330	470	35	NCNS	NCNS
Dichlorobromomethane	75274	0.55	17	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Dieldrin	60571	~~0.000052~~ 0.0000012	~~0.000054~~ 0.0000012	0.3	50	0.24	0.056	~~NCNS~~ 0.03	~~NCNS~~ 0.03
Diethyl phthalate	84662	~~17000~~ 600	~~44000~~ 600	74670	74670	26000	1600	NCNS	NCNS
Dimethyl phthalate	131113	~~270000~~ 2000	~~1100000~~ 2000	NCNS	NCNS	17000	1000	NCNS	NCNS

Table ~~206.1~~ 207.1. Numeric Surface Water Quality Standards (continued)

(All units are in µg/L unless otherwise indicated)

(All numeric standards are in total concentration unless otherwise indicated)

Parameter (Total concentration unless otherwise indicated)	CAS Number	Designated Uses: Domestic Water Supply	Fish Consumption	Primary Human Contact	Secondary Human Contact	Aquatic & Wildlife ~~Habitat~~ Acute	Aquatic & Wildlife ~~Habitat~~ Chronic	Agricultural Water Supply	Livestock Watering
Dinoseb	88857	7	NCNS	933	933	NCNS	NCNS	NCNS	NCNS
Dinitrophenols	25550587	10	1000	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Diquat	85007	20	NCNS	2053	2053	NCNS	NCNS	NCNS	NCNS
Endosulfan sulfate	1031078	~~40~~ 20	20	5600	5600	0.2	0.06	NCNS	NCNS
Endosulfan (Total)	115297	40	20	5600	5600	0.2	0.06	NCNS	NCNS
Endothall	145733	100	NCNS	18667	18667	NCNS	NCNS	NCNS	NCNS
Endrin	72208	~~2~~ 0.03	~~0.06~~ 0.03	280	280	0.086	~~0.002~~ 0.036	~~NCNS~~ 0.004	~~NCNS~~ 0.004
Endrin aldehyde	7421934	0.29	0.3	NCNS	NCNS	0.086	~~0.002~~ 0.036	NCNS	NCNS
Ethylbenzene	100414	~~700~~ 68	~~2100~~ 130	93330	93330	23000	1400	NCNS	NCNS
Fluoranthene	206440	~~130~~ 20	~~30~~ 20	37330	37330	2000	1600	NCNS	NCNS
Fluorene	86737	~~280~~ 50	~~1070~~ 70	37330	37330	NCNS	NCNS	NCNS	NCNS
Fluoride ~~(mg/L)~~	16984488	4000	NCNS	~~56000~~ 140000	~~56000~~ 140000	NCNS	NCNS	NCNS	NCNS
gamma-Hexacholorcyclohexane (HCH)	58899	4.2	4.4	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Glyphosate	1071836	700	266667	93333	93333	NCNS	NCNS	NCNS	NCNS
Guthion	86500	NCNS	NCNS	NCNS	NCNS	NCNS	0.01	NCNS	NCNS
Gross Alpha (pCi/L) (See (d))		15	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	~~15~~ NCNS
Heptachlor	76448	~~0.000079~~ 0.0000059	~~0.000079~~ 0.0000059	1	470	0.52	~~0.0038~~ 0.0036	NCNS	NCNS
Heptachlor epoxide	1024573	~~0.000039~~ 0.000032	~~0.000039~~ 0.000032	1	12	0.52	~~0.0038~~ 0.0036	NCNS	NCNS
Hexachlorobenzene	118741	~~0.00028~~ 0.000079	~~0.00029~~ 0.000079	~~3~~ 1	750	6.0	4 3.7	NCNS	NCNS
Hexachlorobutadiene	87683	~~0.44~~ 0.01	~~18~~ 0.01	18	190	45	8	NCNS	NCNS
Hexachlorocyclohexane (Lindane)	58899	0.2	1.8	280	280	0.95	NCNS	NCNS	NCNS
Hexachlorocyclohexane (HCH)-Technical	608731	0.0066	0.01	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Hexachlorocyclopentadiene	77474	~~50~~ 4	~~40~~ 4	5600	5600	3.5	0.3	NCNS	NCNS
Hexachloroethane	67721	~~1.4~~ 0.1	~~3.3~~ 0.1	330	930	490	350	NCNS	NCNS
Indeno(1,2,3-cd)pyrene	193395	~~0.0038~~ 0.0012	~~0.018~~ 0.0013	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Isophorone	78591	~~35~~ 34	960	4910	186670	59000	43000	NCNS	NCNS
Lead (Pb)	7439921	15	NCNS	15	15	**~~(d)~~ See (b) and Table 207.10 D**	**~~(d)~~ See (b) and Table 207.11 D**	10000	100
Manganese	7439965	980	NCNS	18667	18667	NCNS	NCNS	10000	NCNS
Mercury (Hg)	7439976	2	0.15	280	280	2.4 (D)	**~~(i)~~** ~~0.001~~ 0.012 (D)	NCNS	~~NCNS~~ 10
~~Methylmercury~~		~~NCNS~~	~~NCNS~~	~~NCNS~~	~~NCNS~~	~~NCNS~~	**~~(i)~~** ~~0.00011~~	~~NCNS~~	~~NCNS~~
Methylmercury (mg/kg fish)		NCNS	0.3	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Methoxychlor	72435	~~40~~ 0.02	~~NCNS~~ 0.02	4670	4670	NCNS	NCNS	NCNS	NCNS
Methyl bromide	74839	10	300	NCNS	NCNS	5500	360	NCNS	NCNS
Methyl chloride	74873	NCNS	NCNS	NCNS	NCNS	270000	15000	NCNS	NCNS
Methylene chloride	75092	4.6	590	620	56000	97000	5500	NCNS	NCNS
Molybdenum (Mo)	7439987	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	~~1000 D~~ 50	NCNS
Naphthalene	91203	140	1520	18670	18670	1100	210	NCNS	NCNS
Nickel (Ni)	7440020	610	4600	18670	18670	**~~(c)~~ See (b) and Table 207.12 D**	**~~(d)~~ See (b) and Table 207.13 D**	~~NCNS~~ 2000	NCNS

Table ~~206.1~~ 207.1. Numeric Surface Water Quality Standards (continued)

(All units are in µg/L unless otherwise indicated)

(All numeric standards are in total concentration unless otherwise indicated)

Parameter (Total concentration unless otherwise indicated)	CAS Number	Designated Uses: Domestic Water Supply	Fish Consumption	Primary Human Contact	Secondary Human Contact	Aquatic & Wildlife ~~Habitat~~ Acute	Aquatic & Wildlife ~~Habitat~~ Chronic	Agricultural Water Supply	Livestock Watering
Nitrate-N	14797558	10000	NCNS	1493330	1493330	NCNS	NCNS	NCNS	NCNS
Nitrite-N	14797650	1000	NCNS	93330	93330	NCNS	NCNS	NCNS	NCNS
Nirite+Nitrate-N (mg/L)		NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	~~132~~ 100
Nitrobenzene	98953	~~17~~ 10	~~690~~ 600	470	470	13000	850	NCNS	NCNS
n-Nitrosodimethylamine	62759	0.00069	3	0.1	0.1	NCNS	NCNS	NCNS	NCNS
n-Nitrosodi-n-propylamine	621647	0.005	0.51	1	88670	NCNS	NCNS	NCNS	NCNS
n-Nitrosodiphenylamine	86306	3.3	6	950	950	2900	200	NCNS	NCNS
p,p'-DDD (p,p-Dichlorodiphenyldichloroethane)	72548	~~0.00031~~ 0.00012	~~0.00031~~ 0.00012	5.8	5.8	1.1	0.001	0.001	0.001
p,p'-DDE (p,p-Dichlorodiphenyldichloroethene)	72559	~~0.00022~~ 0.000018	~~0.00022~~ 0.000018	4.1	4.1	1.1	0.001	0.001	0.001
p,p'-DDT (p,p-Dichlorodiphenyltrichloroethane)	50293	~~0.00022~~ 0.000030	~~0.00022~~ 0.000030	4.1	700	1.1	0.001	0.001	0.001
Pentachlorobenzene	608935	0.1	0.1	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Pentachlorophenol	87865	~~0.27~~ 0.03	~~3~~ 0.04	40	28000	~~(h)~~ See (c) and Table 207.16	~~(h)~~ See (c) and Table 207.17	NCNS	NCNS
Phenanthrene	85018	NCNS	NCNS	NCNS	NCNS	30	6.3	NCNS	NCNS
Phenol	108952	2100	35	280000	280000	5100	730	NCNS	NCNS
Polychlorinated biphenyls (PCBs)	1336363	0.5	0.000064	~~2~~ 19	19	2.0	0.014	~~0.01~~ 0.001	~~0.01~~ 0.001
Pyrene	129000	~~210~~ 20	~~800~~ 30	28000	28000	NCNS	NCNS	NCNS	NCNS
Radium 226 + 228 (pCi/L)		5	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	30
Selenium (Se)	7782492	50	670	4670	4670	33	2	20	50
Silver (Ag)	7440224	35	8000	4670	4670	~~(f)~~ See (b) and Table 207.16 D	NCNS	NCNS	NCNS
Strontium 90 (pCi/L)		8	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Tetrachloroethene	127184	5	3.3	9330	9330	2600	280	NCNS	NCNS
Thallium (Tl)	7440280	2	1	75	75	700 D	150 D	NCNS	NCNS
Toluene	108883	~~1000~~ 57	~~12000~~ 520	74670	74670	8700	180	NCNS	NCNS
Toxaphene	8001352	0.00028	0.00028	4	930	0.73	0.0002	~~NCNS~~ 0.005	~~NCNS~~ 0.005
Trichloroethene	79016	~~2.5~~ 0.6	~~30~~ 7	360	2800	20000	1300	NCNS	NCNS
Tritium (pCi/L)	10028178	20000	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	20000

Table ~~206.1~~ 207.1. Numeric Surface Water Quality Standards (continued)

(All units are in µg/L unless otherwise indicated)

(All numeric standards are in total concentration unless otherwise indicated)

Parameter (Total concentration unless otherwise indicated)	CAS Number	Designated Uses: Domestic Water Supply	Fish Consumption	Primary Human Contact	Secondary Human Contact	Aquatic & Wildlife ~~Habitat~~ Acute	Aquatic & Wildlife ~~Habitat~~ Chronic	Agricultural Water Supply	Livestock Watering
Uranium (U)	7440611	30	NCNS	2800	2800	NCNS	NCNS	NCNS	NCNS
Vanadium (V)	7440622	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	~~100 D~~ 1000	100 ~~D~~
Vinyl Chloride	75014	0.002	~~5~~ 1.6	6	2800	NCNS	NCNS	NCNS	NCNS
Xylenes (Total)	1330207	10000	NCNS	186670	186670	NCNS	NCNS	NCNS	NCNS
Zinc (Zn)	7440666	2100	5100	280000	280000	~~(g)~~ See (b) and Table 207.17 D	~~(g)~~ See (b) and Table 207.18 D	10000	25000

Footnotes:

a. The A&W aluminum standard is for acid-soluble aluminum.

Acid soluble aluminum is defined as the aluminum that passes through a 0.45 µm membrane filter after the sample has been acidified to a pH between 1.5 and 2.0 with nitric acid.

b. Hardness, expressed as mg/L calcium carbonate, is inserted into the equation where it says "hardness". The hardness-dependent formulae for metals shall be valid only for hardness values from 0 to 400 mg/L calcium carbonate. For values above 400 mg/L, the value for 400 mg/L. Hardness analysis is done from a dissolved water sample.

c. The pH is inserted into the equation where it says "pH". pH is determined according to the following criteria:

If the water body has an Aquatic and Wildlife Habitat designated use, then the pH is based on the pH of either the effluent (for a point source discharge) or the water body from a sample taken at the same time that the sample for pentachlorophenol is taken.

c. Abbreviations: NCNS = No Current Numeric Standard D = Dissolved mg = milligram(s) µg = microgram(s) µm = micrometer(s)

L = Liter N = Nitrogen pCi - picocurie(s)

CAS Number - Chemical Abstracts Service (CAS) Registry Numbers are unique numerical identifiers assigned to chemical substances recorded in the CAS Chemical Registry System.

d. Compliance with the gross alpha numeric standard of 15 pCi/L is determined according to the following criteria:

For values above 15 pCi/L subtract the radon and uranium activity (in pCi/L) from the gross alpha value to determine the reported gross alpha value.

If radon gas is removed during the gross alpha analytical method, only subtract the uranium activity value.

Uranium activity in pCi/L is determined from the uranium concentration in (ug/L) according to the following formula:

Uranium (pCi/L) = (uranium (ug/L)) X 0.67

~~Table 206.2 Maximum Total Ammonia Concentration~~
~~Acute Standard for Aquatic and Wildlife Habitat~~
~~(Total Ammonia in mg-N/liter)~~

~~pH~~	~~Salmonids Present~~	~~Salmonids Absent~~	~~pH~~
~~6.5~~	~~32.6~~	~~48.8~~	~~6.5~~
~~6.6~~	~~31.3~~	~~46.8~~	~~6.6~~
~~6.7~~	~~29.8~~	~~44.6~~	~~6.7~~
~~6.8~~	~~28.1~~	~~42.0~~	~~6.8~~
~~6.9~~	~~26.2~~	~~39.1~~	~~6.9~~
~~7.0~~	~~24.1~~	~~36.1~~	~~7.0~~
~~7.1~~	~~22.0~~	~~32.8~~	~~7.1~~
~~7.2~~	~~19.7~~	~~29.5~~	~~7.2~~
~~7.3~~	~~17.5~~	~~26.2~~	~~7.3~~
~~7.4~~	~~15.4~~	~~23.0~~	~~7.4~~
~~7.5~~	~~13.3~~	~~19.9~~	~~7.5~~
~~7.6~~	~~11.4~~	~~17.0~~	~~7.6~~
~~7.7~~	~~9.65~~	~~14.4~~	~~7.7~~
~~7.8~~	~~8.11~~	~~12.1~~	~~7.8~~
~~7.9~~	~~6.77~~	~~10.1~~	~~7.9~~
~~8.0~~	~~5.62~~	~~8.40~~	~~8.0~~
~~8.1~~	~~4.64~~	~~6.95~~	~~8.1~~
~~8.2~~	~~3.83~~	~~5.72~~	~~8.2~~
~~8.3~~	~~3.15~~	~~4.71~~	~~8.3~~
~~8.4~~	~~2.59~~	~~3.88~~	~~8.4~~
~~8.5~~	~~2.14~~	~~3.20~~	~~8.5~~
~~8.6~~	~~1.77~~	~~2.65~~	~~8.6~~
~~8.7~~	~~1.47~~	~~2.20~~	~~8.7~~
~~8.8~~	~~1.23~~	~~1.84~~	~~8.8~~
~~8.9~~	~~1.04~~	~~1.56~~	~~8.9~~
~~9.0~~	~~0.885~~	~~1.32~~	~~9.0~~

~~NOTES:~~

~~1. pH is a field measurement to be taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.~~

~~2. If the field measured pH value falls between the tabular values, round the field measured value according to standard scientific rounding procedures to the nearest tabular value to determine the ammonia standard.~~

Table 206.3 Maximum Total Ammonia Concentration
Chronic Standard for Aquatic and Wildlife Habitat
(Total Ammonia mg-N/liter)

	Temperature in Degrees Celsius										
pH	0	14	16	18	20	22	24	26	28	30	pH
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46	6.5
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42	6.6
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37	6.7
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32	6.8
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25	6.9
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18	7.0
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09	7.1
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99	7.2
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87	7.3
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74	7.4
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61	7.5
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47	7.6
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32	7.7
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17	7.8
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03	7.9
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897	8.0
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773	8.1
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661	8.2
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562	8.3
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475	8.4
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401	8.5
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339	8.6
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287	8.7
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244	8.8
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208	8.9
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179	9.0

NOTES:

1. pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.

2. If the field measured pH value falls between the tabular values, round the field measured value according to standard scientific rounding procedures to the nearest tabular value to determine the ammonia standard.

Table 207.2 Acute Water Quality Standards for Dissolved Cadmium - Aquatic and Wildlife Cold Water

Acute Standard = [e (1.0166 [ln (hardness)] - 3.924)][1.136672-[ln (hardness)](0.041838)

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	0.02	41	0.85	81	1.64	121	2.42	161	3.20	201	3.97	241	4.73	281	5.49	321	6.25	361	7.00
2	0.04	42	0.87	82	1.66	122	2.44	162	3.22	202	3.99	242	4.75	282	5.51	322	6.27	362	7.02
3	0.07	43	0.89	83	1.68	123	2.46	163	3.24	203	4.01	243	4.77	283	5.53	323	6.29	363	7.04
4	0.09	44	0.91	84	1.70	124	2.48	164	3.26	204	4.03	244	4.79	284	5.55	324	6.31	364	7.06
5	0.11	45	0.93	85	1.72	125	2.50	165	3.28	205	4.04	245	4.81	285	5.57	325	6.33	365	7.08
6	0.13	46	0.95	86	1.74	126	2.52	166	3.30	206	4.06	246	4.83	286	5.59	326	6.34	366	7.10
7	0.15	47	0.97	87	1.76	127	2.54	167	3.31	207	4.08	247	4.85	287	5.61	327	6.36	367	7.12
8	0.17	48	0.99	88	1.78	128	2.56	168	3.33	208	4.10	248	4.87	288	5.63	328	6.38	368	7.14
9	0.19	49	1.01	89	1.80	129	2.58	169	3.35	209	4.12	249	4.88	289	5.64	329	6.40	369	7.15
10	0.21	50	1.03	90	1.82	130	2.60	170	3.37	210	4.14	250	4.90	290	5.66	330	6.42	370	7.17
11	0.23	51	1.05	91	1.84	131	2.62	171	3.39	211	4.16	251	4.92	291	5.68	331	6.44	371	7.19
12	0.26	52	1.07	92	1.86	132	2.64	172	3.41	212	4.18	252	4.94	292	5.70	332	6.46	372	7.21
13	0.28	53	1.09	93	1.88	133	2.66	173	3.43	213	4.20	253	4.96	293	5.72	333	6.48	373	7.23
14	0.30	54	1.11	94	1.90	134	2.68	174	3.45	214	4.22	254	4.98	294	5.74	334	6.50	374	7.25
15	0.32	55	1.13	95	1.92	135	2.70	175	3.47	215	4.24	255	5.00	295	5.76	335	6.51	375	7.27
16	0.34	56	1.15	96	1.94	136	2.72	176	3.49	216	4.26	256	5.02	296	5.78	336	6.53	376	7.29
17	0.36	57	1.17	97	1.95	137	2.73	177	3.51	217	4.27	257	5.04	297	5.80	337	6.55	377	7.30
18	0.38	58	1.19	98	1.97	138	2.75	178	3.53	218	4.29	258	5.06	298	5.81	338	6.57	378	7.32
19	0.40	59	1.21	99	1.99	139	2.77	179	3.55	219	4.31	259	5.08	299	5.83	339	6.59	379	7.34
20	0.42	60	1.23	100	2.01	140	2.79	180	3.56	220	4.33	260	5.09	300	5.85	340	6.61	380	7.36
21	0.44	61	1.25	101	2.03	141	2.81	181	3.58	221	4.35	261	5.11	301	5.87	341	6.63	381	7.38
22	0.46	62	1.26	102	2.05	142	2.83	182	3.60	222	4.37	262	5.13	302	5.89	342	6.65	382	7.40
23	0.48	63	1.28	103	2.07	143	2.85	183	3.62	223	4.39	263	5.15	303	5.91	343	6.66	383	7.42
24	0.50	64	1.30	104	2.09	144	2.87	184	3.64	224	4.41	264	5.17	304	5.93	344	6.68	384	7.44
25	0.52	65	1.32	105	2.11	145	2.89	185	3.66	225	4.43	265	5.19	305	5.95	345	6.70	385	7.45
26	0.54	66	1.34	106	2.13	146	2.91	186	3.68	226	4.45	266	5.21	306	5.97	346	6.72	386	7.47
27	0.56	67	1.36	107	2.15	147	2.93	187	3.70	227	4.47	267	5.23	307	5.99	347	6.74	387	7.49
28	0.58	68	1.38	108	2.17	148	2.95	188	3.72	228	4.48	268	5.25	308	6.00	348	6.76	388	7.51
29	0.60	69	1.40	109	2.19	149	2.97	189	3.74	229	4.50	269	5.27	309	6.02	349	6.78	389	7.53
30	0.62	70	1.42	110	2.21	150	2.99	190	3.76	230	4.52	270	5.28	310	6.04	350	6.80	390	7.55
31	0.64	71	1.44	111	2.23	151	3.01	191	3.78	231	4.54	271	5.30	311	6.06	351	6.82	391	7.57
32	0.66	72	1.46	112	2.25	152	3.03	192	3.80	232	4.56	272	5.32	312	6.08	352	6.83	392	7.59
33	0.68	73	1.48	113	2.27	153	3.04	193	3.81	233	4.58	273	5.34	313	6.10	353	6.85	393	7.60
34	0.70	74	1.50	114	2.29	154	3.06	194	3.83	234	4.60	274	5.36	314	6.12	354	6.87	394	7.62
35	0.72	75	1.52	115	2.31	155	3.08	195	3.85	235	4.62	275	5.38	315	6.14	355	6.89	395	7.64
36	0.75	76	1.54	116	2.33	156	3.10	196	3.87	236	4.64	276	5.40	316	6.16	356	6.91	396	7.66
37	0.77	77	1.56	117	2.35	157	3.12	197	3.89	237	4.66	277	5.42	317	6.17	357	6.93	397	7.68
38	0.79	78	1.58	118	2.37	158	3.14	198	3.91	238	4.68	278	5.44	318	6.19	358	6.95	398	7.70
39	0.81	79	1.60	119	2.38	159	3.16	199	3.93	239	4.69	279	5.45	319	6.21	359	6.97	399	7.72
40	0.83	80	1.62	120	2.40	160	3.18	200	3.95	240	4.71	280	5.47	320	6.23	360	6.98	400	7.74

Table 207.3 Chronic Water Quality Standards for Dissolved Cadmium - Aquatic and Wildlife Cold Water

Chronic Standard = [e (0.7409 [ln (hardness)] – 4.719)][1.101672-[ln (hardness)](0.041838)]

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	0.01	41	0.13	81	0.21	121	0.28	161	0.34	201	0.40	241	0.45	281	0.50	321	0.55	361	0.60
2	0.02	42	0.13	82	0.21	122	0.28	162	0.34	202	0.40	242	0.45	282	0.50	322	0.55	362	0.60
3	0.02	43	0.14	83	0.22	123	0.28	163	0.35	203	0.40	243	0.46	283	0.51	323	0.55	363	0.60
4	0.03	44	0.14	84	0.22	124	0.29	164	0.35	204	0.40	244	0.46	284	0.51	324	0.56	364	0.60
5	0.03	45	0.14	85	0.22	125	0.29	165	0.35	205	0.40	245	0.46	285	0.51	325	0.56	365	0.60
6	0.03	46	0.14	86	0.22	126	0.29	166	0.35	206	0.41	246	0.46	286	0.51	326	0.56	366	0.60
7	0.04	47	0.15	87	0.22	127	0.29	167	0.35	207	0.41	247	0.46	287	0.51	327	0.56	367	0.61
8	0.04	48	0.15	88	0.23	128	0.29	168	0.35	208	0.41	248	0.46	288	0.51	328	0.56	368	0.61
9	0.05	49	0.15	89	0.23	129	0.29	169	0.35	209	0.41	249	0.46	289	0.51	329	0.56	369	0.61
10	0.05	50	0.15	90	0.23	130	0.30	170	0.36	210	0.41	250	0.46	290	0.51	330	0.56	370	0.61
11	0.05	51	0.15	91	0.23	131	0.30	171	0.36	211	0.41	251	0.47	291	0.52	331	0.56	371	0.61
12	0.06	52	0.16	92	0.23	132	0.30	172	0.36	212	0.41	252	0.47	292	0.52	332	0.57	372	0.61
13	0.06	53	0.16	93	0.23	133	0.30	173	0.36	213	0.42	253	0.47	293	0.52	333	0.57	373	0.61
14	0.06	54	0.16	94	0.24	134	0.30	174	0.36	214	0.42	254	0.47	294	0.52	334	0.57	374	0.61
15	0.07	55	0.16	95	0.24	135	0.30	175	0.36	215	0.42	255	0.47	295	0.52	335	0.57	375	0.62
16	0.07	56	0.16	96	0.24	136	0.30	176	0.36	216	0.42	256	0.47	296	0.52	336	0.57	376	0.62
17	0.07	57	0.17	97	0.24	137	0.31	177	0.37	217	0.42	257	0.47	297	0.52	337	0.57	377	0.62
18	0.07	58	0.17	98	0.24	138	0.31	178	0.37	218	0.42	258	0.47	298	0.52	338	0.57	378	0.62
19	0.08	59	0.17	99	0.24	139	0.31	179	0.37	219	0.42	259	0.48	299	0.53	339	0.57	379	0.62
20	0.08	60	0.17	100	0.25	140	0.31	180	0.37	220	0.43	260	0.48	300	0.53	340	0.57	380	0.62
21	0.08	61	0.17	101	0.25	141	0.31	181	0.37	221	0.43	261	0.48	301	0.53	341	0.58	381	0.62
22	0.09	62	0.18	102	0.25	142	0.31	182	0.37	222	0.43	262	0.48	302	0.53	342	0.58	382	0.62
23	0.09	63	0.18	103	0.25	143	0.32	183	0.37	223	0.43	263	0.48	303	0.53	343	0.58	383	0.62
24	0.09	64	0.18	104	0.25	144	0.32	184	0.38	224	0.43	264	0.48	304	0.53	344	0.58	384	0.63
25	0.09	65	0.18	105	0.25	145	0.32	185	0.38	225	0.43	265	0.48	305	0.53	345	0.58	385	0.63
26	0.10	66	0.18	106	0.26	146	0.32	186	0.38	226	0.43	266	0.48	306	0.53	346	0.58	386	0.63
27	0.10	67	0.19	107	0.26	147	0.32	187	0.38	227	0.43	267	0.49	307	0.54	347	0.58	387	0.63
28	0.10	68	0.19	108	0.26	148	0.32	188	0.38	228	0.44	268	0.49	308	0.54	348	0.58	388	0.63
29	0.10	69	0.19	109	0.26	149	0.32	189	0.38	229	0.44	269	0.49	309	0.54	349	0.59	389	0.63
30	0.11	70	0.19	110	0.26	150	0.33	190	0.38	230	0.44	270	0.49	310	0.54	350	0.59	390	0.63
31	0.11	71	0.19	111	0.26	151	0.33	191	0.39	231	0.44	271	0.49	311	0.54	351	0.59	391	0.63
32	0.11	72	0.20	112	0.27	152	0.33	192	0.39	232	0.44	272	0.49	312	0.54	352	0.59	392	0.63
33	0.11	73	0.20	113	0.27	153	0.33	193	0.39	233	0.44	273	0.49	313	0.54	353	0.59	393	0.64
34	0.12	74	0.20	114	0.27	154	0.33	194	0.39	234	0.44	274	0.50	314	0.54	354	0.59	394	0.64
35	0.12	75	0.20	115	0.27	155	0.33	195	0.39	235	0.45	275	0.50	315	0.55	355	0.59	395	0.64
36	0.12	76	0.20	116	0.27	156	0.33	196	0.39	236	0.45	276	0.50	316	0.55	356	0.59	396	0.64
37	0.12	77	0.21	117	0.27	157	0.34	197	0.39	237	0.45	277	0.50	317	0.55	357	0.59	397	0.64
38	0.13	78	0.21	118	0.28	158	0.34	198	0.40	238	0.45	278	0.50	318	0.55	358	0.60	398	0.64
39	0.13	79	0.21	119	0.28	159	0.34	199	0.40	239	0.45	279	0.50	319	0.55	359	0.60	399	0.64
40	0.13	80	0.21	120	0.28	160	0.34	200	0.40	240	0.45	280	0.50	320	0.55	360	0.60	400	0.64

Table 207.4 Acute Water Quality Standards for Dissolved Cadmium - Aquatic and Wildlife Warm Water

Acute Standard = [e (1.0166 [ln (hardness)] – 2.561][1.136672-[ln (hardness)](0.041838)]

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	0.09	41	3.30	81	6.41	121	9.47	161	12.50	201	15.51	241	18.49	281	21.47	321	24.42	361	27.37
2	0.17	42	3.38	82	6.49	122	9.55	162	12.58	202	15.58	242	18.57	282	21.54	322	24.50	362	27.44
3	0.26	43	3.46	83	6.57	123	9.62	163	12.65	203	15.66	243	18.64	283	21.61	323	24.57	363	27.52
4	0.34	44	3.54	84	6.64	124	9.70	164	12.73	204	15.73	244	18.72	284	21.69	324	24.64	364	27.59
5	0.42	45	3.62	85	6.72	125	9.78	165	12.80	205	15.81	245	18.79	285	21.76	325	24.72	365	27.66
6	0.51	46	3.70	86	6.80	126	9.85	166	12.88	206	15.88	246	18.87	286	21.84	326	24.79	366	27.74
7	0.59	47	3.77	87	6.87	127	9.93	167	12.95	207	15.96	247	18.94	287	21.91	327	24.87	367	27.81
8	0.67	48	3.85	88	6.95	128	10.00	168	13.03	208	16.03	248	19.02	288	21.98	328	24.94	368	27.88
9	0.75	49	3.93	89	7.03	129	10.08	169	13.10	209	16.11	249	19.09	289	22.06	329	25.01	369	27.96
10	0.83	50	4.01	90	7.10	130	10.16	170	13.18	210	16.18	250	19.16	290	22.13	330	25.09	370	28.03
11	0.92	51	4.09	91	7.18	131	10.23	171	13.25	211	16.26	251	19.24	291	22.21	331	25.16	371	28.10
12	1.00	52	4.17	92	7.26	132	10.31	172	13.33	212	16.33	252	19.31	292	22.28	332	25.23	372	28.18
13	1.08	53	4.24	93	7.33	133	10.38	173	13.40	213	16.40	253	19.39	293	22.35	333	25.31	373	28.25
14	1.16	54	4.32	94	7.41	134	10.46	174	13.48	214	16.48	254	19.46	294	22.43	334	25.38	374	28.32
15	1.24	55	4.40	95	7.49	135	10.53	175	13.56	215	16.55	255	19.54	295	22.50	335	25.46	375	28.40
16	1.32	56	4.48	96	7.56	136	10.61	176	13.63	216	16.63	256	19.61	296	22.58	336	25.53	376	28.47
17	1.40	57	4.55	97	7.64	137	10.69	177	13.71	217	16.70	257	19.68	297	22.65	337	25.60	377	28.54
18	1.48	58	4.63	98	7.72	138	10.76	178	13.78	218	16.78	258	19.76	298	22.72	338	25.68	378	28.62
19	1.56	59	4.71	99	7.79	139	10.84	179	13.86	219	16.85	259	19.83	299	22.80	339	25.75	379	28.69
20	1.64	60	4.79	100	7.87	140	10.91	180	13.93	220	16.93	260	19.91	300	22.87	340	25.82	380	28.77
21	1.72	61	4.87	101	7.95	141	10.99	181	14.01	221	17.00	261	19.98	301	22.95	341	25.90	381	28.84
22	1.80	62	4.94	102	8.02	142	11.07	182	14.08	222	17.08	262	20.06	302	23.02	342	25.97	382	28.91
23	1.88	63	5.02	103	8.10	143	11.14	183	14.16	223	17.15	263	20.13	303	23.09	343	26.05	383	28.99
24	1.96	64	5.10	104	8.18	144	11.22	184	14.23	224	17.23	264	20.20	304	23.17	344	26.12	384	29.06
25	2.04	65	5.18	105	8.25	145	11.29	185	14.31	225	17.30	265	20.28	305	23.24	345	26.19	385	29.13
26	2.12	66	5.25	106	8.33	146	11.37	186	14.38	226	17.38	266	20.35	306	23.32	346	26.27	386	29.21
27	2.20	67	5.33	107	8.40	147	11.44	187	14.46	227	17.45	267	20.43	307	23.39	347	26.34	387	29.28
28	2.28	68	5.41	108	8.48	148	11.52	188	14.53	228	17.53	268	20.50	308	23.46	348	26.41	388	29.35
29	2.36	69	5.49	109	8.56	149	11.59	189	14.61	229	17.60	269	20.58	309	23.54	349	26.49	389	29.43
30	2.44	70	5.56	110	8.63	150	11.67	190	14.68	230	17.67	270	20.65	310	23.61	350	26.56	390	29.50
31	2.52	71	5.64	111	8.71	151	11.75	191	14.76	231	17.75	271	20.72	311	23.69	351	26.63	391	29.57
32	2.60	72	5.72	112	8.79	152	11.82	192	14.83	232	17.82	272	20.80	312	23.76	352	26.71	392	29.65
33	2.67	73	5.79	113	8.86	153	11.90	193	14.91	233	17.90	273	20.87	313	23.83	353	26.78	393	29.72
34	2.75	74	5.87	114	8.94	154	11.97	194	14.98	234	17.97	274	20.95	314	23.91	354	26.85	394	29.79
35	2.83	75	5.95	115	9.01	155	12.05	195	15.06	235	18.05	275	21.02	315	23.98	355	26.93	395	29.87
36	2.91	76	6.03	116	9.09	156	12.12	196	15.13	236	18.12	276	21.09	316	24.05	356	27.00	396	29.94
37	2.99	77	6.10	117	9.17	157	12.20	197	15.21	237	18.20	277	21.17	317	24.13	357	27.08	397	30.01
38	3.07	78	6.18	118	9.24	158	12.27	198	15.28	238	18.27	278	21.24	318	24.20	358	27.15	398	30.08
39	3.15	79	6.26	119	9.32	159	12.35	199	15.36	239	18.35	279	21.32	319	24.28	359	27.22	399	30.16
40	0.8	80	6.33	120	9.40	160	12.43	200	15.43	240	18.42	280	21.39	320	24.35	360	27.30	400	30.23

Table 207.5 Chronic Water Quality Standards for Dissolved Cadmium - Aquatic and Wildlife Warm Water

Chronic Standard = [e (0.7409 [ln (hardness)] – 3.894)][1.101672-[ln (hardness)](0.041838)]

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	0.02	41	0.30	81	0.48	121	0.64	161	0.78	201	0.91	241	1.03	281	1.15	321	1.26	361	1.37
2	0.04	42	0.31	82	0.49	122	0.64	162	0.78	202	0.91	242	1.04	282	1.15	322	1.26	362	1.37
3	0.05	43	0.31	83	0.49	123	0.65	163	0.79	203	0.92	243	1.04	283	1.16	323	1.27	363	1.37
4	0.06	44	0.32	84	0.50	124	0.65	164	0.79	204	0.92	244	1.04	284	1.16	324	1.27	364	1.38
5	0.07	45	0.32	85	0.50	125	0.66	165	0.79	205	0.92	245	1.05	285	1.16	325	1.27	365	1.38
6	0.08	46	0.33	86	0.51	126	0.66	166	0.80	206	0.93	246	1.05	286	1.16	326	1.27	366	1.38
7	0.09	47	0.33	87	0.51	127	0.66	167	0.80	207	0.93	247	1.05	287	1.17	327	1.28	367	1.38
8	0.10	48	0.34	88	0.51	128	0.67	168	0.80	208	0.93	248	1.05	288	1.17	328	1.28	368	1.39
9	0.10	49	0.34	89	0.52	129	0.67	169	0.81	209	0.94	249	1.06	289	1.17	329	1.28	369	1.39
10	0.11	50	0.35	90	0.52	130	0.67	170	0.81	210	0.94	250	1.06	290	1.17	330	1.28	370	1.39
11	0.12	51	0.35	91	0.53	131	0.68	171	0.81	211	0.94	251	1.06	291	1.18	331	1.29	371	1.39
12	0.13	52	0.36	92	0.53	132	0.68	172	0.82	212	0.95	252	1.07	292	1.18	332	1.29	372	1.40
13	0.14	53	0.36	93	0.53	133	0.68	173	0.82	213	0.95	253	1.07	293	1.18	333	1.29	373	1.40
14	0.14	54	0.37	94	0.54	134	0.69	174	0.82	214	0.95	254	1.07	294	1.19	334	1.30	374	1.40
15	0.15	55	0.37	95	0.54	135	0.69	175	0.83	215	0.95	255	1.07	295	1.19	335	1.30	375	1.40
16	0.16	56	0.38	96	0.55	136	0.69	176	0.83	216	0.96	256	1.08	296	1.19	336	1.30	376	1.41
17	0.16	57	0.38	97	0.55	137	0.70	177	0.83	217	0.96	257	1.08	297	1.19	337	1.30	377	1.41
18	0.17	58	0.38	98	0.55	138	0.70	178	0.84	218	0.96	258	1.08	298	1.20	338	1.31	378	1.41
19	0.18	59	0.39	99	0.56	139	0.71	179	0.84	219	0.97	259	1.09	299	1.20	339	1.31	379	1.41
20	0.18	60	0.39	100	0.56	140	0.71	180	0.84	220	0.97	260	1.09	300	1.20	340	1.31	380	1.42
21	0.19	61	0.40	101	0.57	141	0.71	181	0.85	221	0.97	261	1.09	301	1.21	341	1.31	381	1.42
22	0.20	62	0.40	102	0.57	142	0.72	182	0.85	222	0.98	262	1.10	302	1.21	342	1.32	382	1.42
23	0.20	63	0.41	103	0.57	143	0.72	183	0.85	223	0.98	263	1.10	303	1.21	343	1.32	383	1.42
24	0.21	64	0.41	104	0.58	144	0.72	184	0.86	224	0.98	264	1.10	304	1.21	344	1.32	384	1.43
25	0.21	65	0.42	105	0.58	145	0.73	185	0.86	225	0.99	265	1.10	305	1.22	345	1.32	385	1.43
26	0.22	66	0.42	106	0.58	146	0.73	186	0.86	226	0.99	266	1.11	306	1.22	346	1.33	386	1.43
27	0.23	67	0.42	107	0.59	147	0.73	187	0.87	227	0.99	267	1.11	307	1.22	347	1.33	387	1.43
28	0.23	68	0.43	108	0.59	148	0.74	188	0.87	228	0.99	268	1.11	308	1.22	348	1.33	388	1.44
29	0.24	69	0.43	109	0.60	149	0.74	189	0.87	229	1.00	269	1.12	309	1.23	349	1.34	389	1.44
30	0.24	70	0.44	110	0.60	150	0.74	190	0.88	230	1.00	270	1.12	310	1.23	350	1.34	390	1.44
31	0.25	71	0.44	111	0.60	151	0.75	191	0.88	231	1.00	271	1.12	311	1.23	351	1.34	391	1.44
32	0.25	72	0.45	112	0.61	152	0.75	192	0.88	232	1.01	272	1.12	312	1.24	352	1.34	392	1.45
33	0.26	73	0.45	113	0.61	153	0.75	193	0.89	233	1.01	273	1.13	313	1.24	353	1.35	393	1.45
34	0.26	74	0.46	114	0.61	154	0.76	194	0.89	234	1.01	274	1.13	314	1.24	354	1.35	394	1.45
35	0.27	75	0.46	115	0.62	155	0.76	195	0.89	235	1.02	275	1.13	315	1.24	355	1.35	395	1.46
36	0.28	76	0.46	116	0.62	156	0.76	196	0.90	236	1.02	276	1.14	316	1.25	356	1.35	396	1.46
37	0.28	77	0.47	117	0.63	157	0.77	197	0.90	237	1.02	277	1.14	317	1.25	357	1.36	397	1.46
38	0.29	78	0.47	118	0.63	158	0.77	198	0.90	238	1.02	278	1.14	318	1.25	358	1.36	398	1.46
39	0.29	79	0.48	119	0.63	159	0.77	199	0.91	239	1.03	279	1.14	319	1.26	359	1.36	399	1.47
40	0.30	80	0.48	120	0.64	160	0.78	200	0.91	240	1.03	280	1.15	320	1.26	360	1.36	400	1.47

Table 207.6 Acute Water Quality Standards for Dissolved Chromium III - Aquatic and Wildlife

Acute Standard = [e (0.8190 [ln (hardness)] + 3.7256)] 0.316

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	13.1	41	275	81	479	121	666	161	842	201	1009	241	1171	281	1328	321	1481	361	1630
2	23.1	42	280	82	484	122	671	162	846	202	1013	242	1175	282	1332	322	1485	362	1634
3	32.2	43	285	83	489	123	675	163	850	203	1017	243	1179	283	1336	323	1488	363	1638
4	40.8	44	291	84	494	124	680	164	854	204	1022	244	1183	284	1340	324	1492	364	1641
5	49.0	45	296	85	499	125	684	165	859	205	1026	245	1187	285	1343	325	1496	365	1645
6	56.9	46	302	86	504	126	688	166	863	206	1030	246	1191	286	1347	326	1500	366	1649
7	64.5	47	307	87	508	127	693	167	867	207	1034	247	1195	287	1351	327	1504	367	1653
8	72.0	48	312	88	513	128	697	168	871	208	1038	248	1199	288	1355	328	1507	368	1656
9	79.3	49	318	89	518	129	702	169	876	209	1042	249	1203	289	1359	329	1511	369	1660
10	86.4	50	323	90	523	130	706	170	880	210	1046	250	1207	290	1363	330	1515	370	1664
11	93.5	51	328	91	527	131	711	171	884	211	1050	251	1211	291	1367	331	1519	371	1667
12	100	52	334	92	532	132	715	172	888	212	1054	252	1215	292	1370	332	1522	372	1671
13	107	53	339	93	537	133	720	173	893	213	1058	253	1219	293	1374	333	1526	373	1675
14	114	54	344	94	542	134	724	174	897	214	1062	254	1223	294	1378	334	1530	374	1678
15	120	55	349	95	546	135	729	175	901	215	1067	255	1226	295	1382	335	1534	375	1682
16	127	56	354	96	551	136	733	176	905	216	1071	256	1230	296	1386	336	1537	376	1686
17	133	57	360	97	556	137	737	177	909	217	1075	257	1234	297	1390	337	1541	377	1689
18	140	58	365	98	560	138	742	178	914	218	1079	258	1238	298	1393	338	1545	378	1693
19	146	59	370	99	565	139	746	179	918	219	1083	259	1242	299	1397	339	1549	379	1697
20	152	60	375	100	570	140	751	180	922	220	1087	260	1246	300	1401	340	1552	380	1700
21	159	61	380	101	574	141	755	181	926	221	1091	261	1250	301	1405	341	1556	381	1704
22	165	62	385	102	579	142	759	182	930	222	1095	262	1254	302	1409	342	1560	382	1708
23	171	63	390	103	584	143	764	183	935	223	1099	263	1258	303	1413	343	1564	383	1711
24	177	64	395	104	588	144	768	184	939	224	1103	264	1262	304	1416	344	1567	384	1715
25	183	65	400	105	593	145	772	185	943	225	1107	265	1266	305	1420	345	1571	385	1719
26	189	66	405	106	598	146	777	186	947	226	1111	266	1270	306	1424	346	1575	386	1722
27	195	67	410	107	602	147	781	187	951	227	1115	267	1274	307	1428	347	1578	387	1726
28	201	68	415	108	607	148	785	188	955	228	1119	268	1277	308	1432	348	1582	388	1730
29	207	69	420	109	611	149	790	189	960	229	1123	269	1281	309	1435	349	1586	389	1733
30	213	70	425	110	616	150	794	190	964	230	1127	270	1285	310	1439	350	1590	390	1737
31	218	71	430	111	621	151	799	191	968	231	1131	271	1289	311	1443	351	1593	391	1741
32	224	72	435	112	625	152	803	192	972	232	1135	272	1293	312	1447	352	1597	392	1744
33	230	73	440	113	630	153	807	193	976	233	1139	273	1297	313	1451	353	1601	393	1748
34	235	74	445	114	634	154	811	194	980	234	1143	274	1301	314	1454	354	1604	394	1751
35	241	75	450	115	639	155	816	195	985	235	1147	275	1305	315	1458	355	1608	395	1755
36	247	76	455	116	643	156	820	196	989	236	1151	276	1309	316	1462	356	1612	396	1759
37	252	77	460	117	648	157	824	197	993	237	1155	277	1312	317	1466	357	1616	397	1762
38	258	78	465	118	652	158	829	198	997	238	1159	278	1316	318	1470	358	1619	398	1766
39	263	79	470	119	657	159	833	199	1001	239	1163	279	1320	319	1473	359	1623	399	1770
40	269	80	475	120	662	160	837	200	1005	240	1167	280	1324	320	1477	360	1627	400	1773

Table 207.7 Chronic Water Quality Standards for Dissolved Chromium III - Aquatic and Wildlife

Chronic Standard = [e (0.8190 [ln (hardness)] + 0.6848)]0.860

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	1.7	41	35.71	81	62.37	121	86.64	161	109.47	201	131.29	241	152.33	281	172.74	321	192.63	361	212.08
2	3.01	42	36.42	82	63.00	122	87.22	162	110.03	202	131.82	242	152.84	282	173.24	322	193.12	362	212.56
3	4.19	43	37.13	83	63.63	123	87.81	163	110.58	203	132.36	243	153.36	283	173.75	323	193.62	363	213.04
4	5.31	44	37.83	84	64.25	124	88.39	164	111.14	204	132.89	244	153.88	284	174.25	324	194.11	364	213.52
5	6.37	45	38.54	85	64.88	125	88.98	165	111.69	205	133.42	245	154.39	285	174.75	325	194.60	365	214.00
6	7.40	46	39.24	86	65.50	126	89.56	166	112.25	206	133.96	246	154.91	286	175.25	326	195.09	366	214.48
7	8.40	47	39.93	87	66.13	127	90.14	167	112.80	207	134.49	247	155.43	287	175.76	327	195.58	367	214.96
8	9.37	48	40.63	88	66.75	128	90.72	168	113.35	208	135.02	248	155.94	288	176.26	328	196.07	368	215.44
9	10.31	49	41.32	89	67.37	129	91.30	169	113.90	209	135.55	249	156.46	289	176.76	329	196.56	369	215.92
10	11.24	50	42.01	90	67.99	130	91.88	170	114.46	210	136.08	250	156.97	290	177.26	330	197.05	370	216.40
11	12.16	51	42.70	91	68.61	131	92.46	171	115.01	211	136.61	251	157.48	291	177.76	331	197.53	371	216.88
12	13.05	52	43.38	92	69.22	132	93.04	172	115.56	212	137.14	252	158.00	292	178.26	332	198.02	372	217.36
13	13.94	53	44.06	93	69.84	133	93.61	173	116.11	213	137.67	253	158.51	293	178.76	333	198.51	373	217.84
14	14.81	54	44.74	94	70.45	134	94.19	174	116.66	214	138.20	254	159.02	294	179.26	334	199.00	374	218.32
15	15.67	55	45.42	95	71.07	135	94.76	175	117.21	215	138.73	255	159.54	295	179.76	335	199.49	375	218.79
16	16.52	56	46.10	96	71.68	136	95.34	176	117.75	216	139.26	256	160.05	296	180.26	336	199.97	376	219.27
17	17.36	57	46.77	97	72.29	137	95.91	177	118.30	217	139.79	257	160.56	297	180.76	337	200.46	377	219.75
18	18.20	58	47.44	98	72.90	138	96.49	178	118.85	218	140.31	258	161.07	298	181.25	338	200.95	378	220.23
19	19.02	59	48.11	99	73.51	139	97.06	179	119.40	219	140.84	259	161.58	299	181.75	339	201.44	379	220.70
20	19.84	60	48.78	100	74.11	140	97.63	180	119.94	220	141.37	260	162.09	300	182.25	340	201.92	380	221.18
21	20.64	61	49.44	101	74.72	141	98.20	181	120.49	221	141.89	261	162.60	301	182.75	341	202.41	381	221.66
22	21.45	62	50.10	102	75.33	142	98.77	182	121.03	222	142.42	262	163.11	302	183.24	342	202.89	382	222.13
23	22.24	63	50.76	103	75.93	143	99.34	183	121.58	223	142.94	263	163.62	303	183.74	343	203.38	383	222.61
24	23.03	64	51.42	104	76.53	144	99.91	184	122.12	224	143.47	264	164.13	304	184.24	344	203.87	384	223.09
25	23.81	65	52.08	105	77.14	145	100.48	185	122.66	225	143.99	265	164.64	305	184.73	345	204.35	385	223.56
26	24.59	66	52.74	106	77.74	146	101.04	186	123.21	226	144.52	266	165.15	306	185.23	346	204.84	386	224.04
27	25.36	67	53.39	107	78.34	147	101.61	187	123.75	227	145.04	267	165.66	307	185.72	347	205.32	387	224.51
28	26.13	68	54.04	108	78.94	148	102.18	188	124.29	228	145.56	268	166.17	308	186.22	348	205.81	388	224.99
29	26.89	69	54.69	109	79.53	149	102.74	189	124.83	229	146.09	269	166.67	309	186.72	349	206.29	389	225.46
30	27.65	70	55.34	110	80.13	150	103.31	190	125.37	230	146.61	270	167.18	310	187.21	350	206.77	390	225.94
31	28.40	71	55.99	111	80.73	151	103.87	191	125.91	231	147.13	271	167.69	311	187.70	351	207.26	391	226.41
32	29.15	72	56.63	112	81.32	152	104.43	192	126.45	232	147.65	272	168.20	312	188.20	352	207.74	392	226.88
33	29.89	73	57.27	113	81.92	153	104.99	193	126.99	233	148.17	273	168.70	313	188.69	353	208.22	393	227.36
34	30.63	74	57.92	114	82.51	154	105.56	194	127.53	234	148.69	274	169.21	314	189.19	354	208.71	394	227.83
35	31.37	75	58.56	115	83.10	155	106.12	195	128.07	235	149.21	275	169.71	315	189.68	355	209.19	395	228.31
36	32.10	76	59.20	116	83.69	156	106.68	196	128.61	236	149.73	276	170.22	316	190.17	356	209.67	396	228.78
37	32.83	77	59.83	117	84.28	157	107.24	197	129.14	237	150.25	277	170.72	317	190.66	357	210.15	397	229.25
38	33.55	78	60.47	118	84.87	158	107.80	198	129.68	238	150.77	278	171.23	318	191.16	358	210.64	398	229.72
39	34.28	79	61.10	119	85.46	159	108.35	199	130.22	239	151.29	279	171.73	319	191.65	359	211.12	399	230.20
40	34.99	80	61.74	120	86.05	160	108.91	200	130.75	240	151.81	280	172.24	320	192.14	360	211.60	400	230.67

Table 207.8 Acute Water Quality Standards for Dissolved Copper - Aquatic and Wildlife

Acute Standard = [e (0.9422 [ln (hardness)] - 1.700)]0.960

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	0.18	41	5.80	81	11.02	121	16.08	161	21.05	201	25.94	241	30.78	281	35.57	321	40.33	361	45.05
2	0.34	42	5.93	82	11.15	122	16.21	162	21.17	202	26.07	242	30.90	282	35.69	322	40.45	362	45.16
3	0.49	43	6.07	83	11.28	123	16.33	163	21.30	203	26.19	243	31.02	283	35.81	323	40.56	363	45.28
4	0.65	44	6.20	84	11.40	124	16.46	164	21.42	204	26.31	244	31.14	284	35.93	324	40.68	364	45.40
5	0.80	45	6.33	85	11.53	125	16.58	165	21.54	205	26.43	245	31.26	285	36.05	325	40.80	365	45.52
6	0.95	46	6.47	86	11.66	126	16.71	166	21.66	206	26.55	246	31.38	286	36.17	326	40.92	366	45.63
7	1.10	47	6.60	87	11.79	127	16.83	167	21.79	207	26.67	247	31.50	287	36.29	327	41.04	367	45.75
8	1.24	48	6.73	88	11.91	128	16.96	168	21.91	208	26.79	248	31.62	288	36.41	328	41.16	368	45.87
9	1.39	49	6.86	89	12.04	129	17.08	169	22.03	209	26.92	249	31.74	289	36.53	329	41.27	369	45.99
10	1.54	50	6.99	90	12.17	130	17.21	170	22.16	210	27.04	250	31.86	290	36.65	330	41.39	370	46.10
11	1.68	51	7.13	91	12.30	131	17.33	171	22.28	211	27.16	251	31.98	291	36.77	331	41.51	371	46.22
12	1.82	52	7.26	92	12.42	132	17.46	172	22.40	212	27.28	252	32.10	292	36.89	332	41.63	372	46.34
13	1.97	53	7.39	93	12.55	133	17.58	173	22.52	213	27.40	253	32.22	293	37.00	333	41.75	373	46.46
14	2.11	54	7.52	94	12.68	134	17.71	174	22.65	214	27.52	254	32.34	294	37.12	334	41.86	374	46.57
15	2.25	55	7.65	95	12.81	135	17.83	175	22.77	215	27.64	255	32.46	295	37.24	335	41.98	375	46.69
16	2.39	56	7.78	96	12.93	136	17.96	176	22.89	216	27.76	256	32.58	296	37.36	336	42.10	376	46.81
17	2.53	57	7.91	97	13.06	137	18.08	177	23.02	217	27.89	257	32.70	297	37.48	337	42.22	377	46.92
18	2.67	58	8.04	98	13.19	138	18.20	178	23.14	218	28.01	258	32.82	298	37.60	338	42.34	378	47.04
19	2.81	59	8.17	99	13.31	139	18.33	179	23.26	219	28.13	259	32.94	299	37.72	339	42.45	379	47.16
20	2.95	60	8.31	100	13.44	140	18.45	180	23.38	220	28.25	260	33.06	300	37.84	340	42.57	380	47.28
21	3.09	61	8.44	101	13.57	141	18.58	181	23.50	221	28.37	261	33.18	301	37.96	341	42.69	381	47.39
22	3.23	62	8.57	102	13.69	142	18.70	182	23.63	222	28.49	262	33.30	302	38.07	342	42.81	382	47.51
23	3.37	63	8.70	103	13.82	143	18.82	183	23.75	223	28.61	263	33.42	303	38.19	343	42.93	383	47.63
24	3.50	64	8.83	104	13.95	144	18.95	184	23.87	224	28.73	264	33.54	304	38.31	344	43.04	384	47.74
25	3.64	65	8.96	105	14.07	145	19.07	185	23.99	225	28.85	265	33.66	305	38.43	345	43.16	385	47.86
26	3.78	66	9.09	106	14.20	146	19.20	186	24.12	226	28.97	266	33.78	306	38.55	346	43.28	386	47.98
27	3.91	67	9.22	107	14.32	147	19.32	187	24.24	227	29.09	267	33.90	307	38.67	347	43.40	387	48.10
28	4.05	68	9.34	108	14.45	148	19.44	188	24.36	228	29.22	268	34.02	308	38.79	348	43.52	388	48.21
29	4.19	69	9.47	109	14.58	149	19.57	189	24.48	229	29.34	269	34.14	309	38.91	349	43.63	389	48.33
30	4.32	70	9.60	110	14.70	150	19.69	190	24.60	230	29.46	270	34.26	310	39.02	350	43.75	390	48.45
31	4.46	71	9.73	111	14.83	151	19.82	191	24.73	231	29.58	271	34.38	311	39.14	351	43.87	391	48.56
32	4.59	72	9.86	112	14.95	152	19.94	192	24.85	232	29.70	272	34.50	312	39.26	352	43.99	392	48.68
33	4.73	73	9.99	113	15.08	153	20.06	193	24.97	233	29.82	273	34.62	313	39.38	353	44.10	393	48.80
34	4.86	74	10.12	114	15.20	154	20.19	194	25.09	234	29.94	274	34.74	314	39.50	354	44.22	394	48.92
35	5.00	75	10.25	115	15.33	155	20.31	195	25.21	235	30.06	275	34.86	315	39.62	355	44.34	395	49.03
36	5.13	76	10.38	116	15.46	156	20.43	196	25.34	236	30.18	276	34.98	316	39.74	356	44.46	396	49.15
37	5.27	77	10.51	117	15.58	157	20.56	197	25.46	237	30.30	277	35.10	317	39.85	357	44.58	397	49.27
38	5.40	78	10.63	118	15.71	158	20.68	198	25.58	238	30.42	278	35.22	318	39.97	358	44.69	398	49.38
39	5.53	79	10.76	119	15.83	159	20.80	199	25.70	239	30.54	279	35.34	319	40.09	359	44.81	399	49.50
40	5.67	80	10.89	120	15.96	160	20.93	200	25.82	240	30.66	280	35.46	320	40.21	360	44.93	400	49.62

Table 207.9 Chronic Water Quality Standards for Dissolved Copper - Aquatic and Wildlife

Chronic Standard = [e (0.8545 [ln (hardness)] - 1.702)]0.960

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	0.18	41	4.18	81	7.48	121	10.54	161	13.45	201	16.26	241	18.99	281	21.65	321	24.26	361	26.82
2	0.32	42	4.27	82	7.56	122	10.61	162	13.52	202	16.33	242	19.06	282	21.72	322	24.33	362	26.89
3	0.45	43	4.35	83	7.64	123	10.69	163	13.60	203	16.40	243	19.13	283	21.78	323	24.39	363	26.95
4	0.57	44	4.44	84	7.72	124	10.76	164	13.67	204	16.47	244	19.19	284	21.85	324	24.45	364	27.01
5	0.69	45	4.53	85	7.79	125	10.84	165	13.74	205	16.54	245	19.26	285	21.92	325	24.52	365	27.08
6	0.81	46	4.61	86	7.87	126	10.91	166	13.81	206	16.61	246	19.33	286	21.98	326	24.58	366	27.14
7	0.92	47	4.70	87	7.95	127	10.99	167	13.88	207	16.68	247	19.39	287	22.05	327	24.65	367	27.20
8	1.03	48	4.78	88	8.03	128	11.06	168	13.95	208	16.75	248	19.46	288	22.11	328	24.71	368	27.27
9	1.14	49	4.87	89	8.11	129	11.13	169	14.02	209	16.81	249	19.53	289	22.18	329	24.78	369	27.33
10	1.25	50	4.95	90	8.18	130	11.21	170	14.09	210	16.88	250	19.59	290	22.24	330	24.84	370	27.39
11	1.36	51	5.04	91	8.26	131	11.28	171	14.16	211	16.95	251	19.66	291	22.31	331	24.91	371	27.46
12	1.46	52	5.12	92	8.34	132	11.35	172	14.24	212	17.02	252	19.73	292	22.38	332	24.97	372	27.52
13	1.57	53	5.21	93	8.42	133	11.43	173	14.31	213	17.09	253	19.80	293	22.44	333	25.03	373	27.58
14	1.67	54	5.29	94	8.49	134	11.50	174	14.38	214	17.16	254	19.86	294	22.51	334	25.10	374	27.65
15	1.77	55	5.37	95	8.57	135	11.57	175	14.45	215	17.23	255	19.93	295	22.57	335	25.16	375	27.71
16	1.87	56	5.46	96	8.65	136	11.65	176	14.52	216	17.29	256	20.00	296	22.64	336	25.23	376	27.77
17	1.97	57	5.54	97	8.73	137	11.72	177	14.59	217	17.36	257	20.06	297	22.70	337	25.29	377	27.83
18	2.07	58	5.62	98	8.80	138	11.79	178	14.66	218	17.43	258	20.13	298	22.77	338	25.35	378	27.90
19	2.17	59	5.71	99	8.88	139	11.87	179	14.73	219	17.50	259	20.20	299	22.83	339	25.42	379	27.96
20	2.26	60	5.79	100	8.96	140	11.94	180	14.80	220	17.57	260	20.26	300	22.90	340	25.48	380	28.02
21	2.36	61	5.87	101	9.03	141	12.01	181	14.87	221	17.64	261	20.33	301	22.96	341	25.55	381	28.09
22	2.46	62	5.95	102	9.11	142	12.08	182	14.94	222	17.70	262	20.40	302	23.03	342	25.61	382	28.15
23	2.55	63	6.03	103	9.18	143	12.16	183	15.01	223	17.77	263	20.46	303	23.09	343	25.68	383	28.21
24	2.65	64	6.12	104	9.26	144	12.23	184	15.08	224	17.84	264	20.53	304	23.16	344	25.74	384	28.28
25	2.74	65	6.20	105	9.34	145	12.30	185	15.15	225	17.91	265	20.60	305	23.22	345	25.80	385	28.34
26	2.83	66	6.28	106	9.41	146	12.37	186	15.22	226	17.98	266	20.66	306	23.29	346	25.87	386	28.40
27	2.93	67	6.36	107	9.49	147	12.45	187	15.29	227	18.04	267	20.73	307	23.35	347	25.93	387	28.46
28	3.02	68	6.44	108	9.56	148	12.52	188	15.36	228	18.11	268	20.79	308	23.42	348	25.99	388	28.53
29	3.11	69	6.52	109	9.64	149	12.59	189	15.43	229	18.18	269	20.86	309	23.48	349	26.06	389	28.59
30	3.20	70	6.60	110	9.72	150	12.66	190	15.50	230	18.25	270	20.93	310	23.55	350	26.12	390	28.65
31	3.29	71	6.68	111	9.79	151	12.74	191	15.57	231	18.32	271	20.99	311	23.61	351	26.19	391	28.72
32	3.38	72	6.76	112	9.87	152	12.81	192	15.64	232	18.38	272	21.06	312	23.68	352	26.25	392	28.78
33	3.47	73	6.84	113	9.94	153	12.88	193	15.71	233	18.45	273	21.13	313	23.74	353	26.31	393	28.84
34	3.56	74	6.92	114	10.02	154	12.95	194	15.78	234	18.52	274	21.19	314	23.81	354	26.38	394	28.90
35	3.65	75	7.00	115	10.09	155	13.02	195	15.85	235	18.59	275	21.26	315	23.87	355	26.44	395	28.97
36	3.74	76	7.08	116	10.17	156	13.10	196	15.92	236	18.65	276	21.32	316	23.94	356	26.50	396	29.03
37	3.83	77	7.16	117	10.24	157	13.17	197	15.99	237	18.72	277	21.39	317	24.00	357	26.57	397	29.09
38	3.92	78	7.24	118	10.32	158	13.24	198	16.05	238	18.79	278	21.46	318	24.07	358	26.63	398	29.15
39	4.01	79	7.32	119	10.39	159	13.31	199	16.12	239	18.86	279	21.52	319	24.13	359	26.70	399	29.22
40	4.09	80	7.40	120	10.47	160	13.38	200	16.19	240	18.92	280	21.59	320	24.20	360	26.76	400	29.28

Table 207.10 Acute Water Quality Standards for Dissolved Lead - Aquatic and Wildlife

Acute Standard = [e (1.273 [ln (hardness)] - 1.460)][1.46203-[ln (hardness)](0.145712)]

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	0.34	41	24.17	81	51.30	121	79.43	161	108.02	201	136.86	241	165.82	281	194.81	321	223.79	361	252.72
2	0.76	42	24.82	82	52.00	122	80.14	162	108.74	202	137.59	242	166.55	282	195.54	322	224.52	362	253.44
3	1.22	43	25.48	83	52.69	123	80.85	163	109.46	203	138.31	243	167.27	283	196.26	323	225.24	363	254.16
4	1.71	44	26.14	84	53.39	124	81.56	164	110.18	204	139.03	244	167.99	284	196.99	324	225.96	364	254.89
5	2.21	45	26.81	85	54.08	125	82.27	165	110.90	205	139.76	245	168.72	285	197.71	325	226.69	365	255.61
6	2.73	46	27.47	86	54.78	126	82.98	166	111.62	206	140.48	246	169.44	286	198.44	326	227.41	366	256.33
7	3.26	47	28.13	87	55.48	127	83.69	167	112.34	207	141.20	247	170.17	287	199.16	327	228.14	367	257.05
8	3.80	48	28.80	88	56.17	128	84.41	168	113.06	208	141.93	248	170.89	288	199.89	328	228.86	368	257.77
9	4.35	49	29.47	89	56.87	129	85.12	169	113.78	209	142.65	249	171.62	289	200.61	329	229.58	369	258.50
10	4.91	50	30.14	90	57.57	130	85.83	170	114.50	210	143.37	250	172.34	290	201.34	330	230.31	370	259.22
11	5.47	51	30.81	91	58.27	131	86.54	171	115.22	211	144.10	251	173.07	291	202.06	331	231.03	371	259.94
12	6.04	52	31.48	92	58.97	132	87.26	172	115.94	212	144.82	252	173.79	292	202.79	332	231.75	372	260.66
13	6.62	53	32.15	93	59.67	133	87.97	173	116.66	213	145.54	253	174.52	293	203.51	333	232.48	373	261.38
14	7.20	54	32.82	94	60.37	134	88.68	174	117.38	214	146.27	254	175.24	294	204.24	334	233.20	374	262.10
15	7.79	55	33.49	95	61.07	135	89.40	175	118.10	215	146.99	255	175.97	295	204.96	335	233.92	375	262.83
16	8.38	56	34.17	96	61.77	136	90.11	176	118.82	216	147.71	256	176.69	296	205.69	336	234.65	376	263.55
17	8.98	57	34.84	97	62.47	137	90.83	177	119.54	217	148.44	257	177.42	297	206.41	337	235.37	377	264.27
18	9.58	58	35.52	98	63.18	138	91.54	178	120.26	218	149.16	258	178.14	298	207.13	338	236.09	378	264.99
19	10.18	59	36.20	99	63.88	139	92.25	179	120.98	219	149.89	259	178.87	299	207.86	339	236.82	379	265.71
20	10.79	60	36.88	100	64.58	140	92.97	180	121.70	220	150.61	260	179.59	300	208.58	340	237.54	380	266.43
21	11.40	61	37.56	101	65.28	141	93.68	181	122.42	221	151.33	261	180.32	301	209.31	341	238.26	381	267.15
22	12.02	62	38.24	102	65.99	142	94.40	182	123.14	222	152.06	262	181.04	302	210.03	342	238.99	382	267.88
23	12.64	63	38.92	103	66.69	143	95.12	183	123.87	223	152.78	263	181.77	303	210.76	343	239.71	383	268.60
24	13.26	64	39.60	104	67.40	144	95.83	184	124.59	224	153.51	264	182.49	304	211.48	344	240.43	384	269.32
25	13.88	65	40.28	105	68.10	145	96.55	185	125.31	225	154.23	265	183.22	305	212.21	345	241.16	385	270.04
26	14.51	66	40.97	106	68.81	146	97.26	186	126.03	226	154.95	266	183.94	306	212.93	346	241.88	386	270.76
27	15.14	67	41.65	107	69.51	147	97.98	187	126.75	227	155.68	267	184.67	307	213.65	347	242.60	387	271.48
28	15.77	68	42.33	108	70.22	148	98.70	188	127.47	228	156.40	268	185.39	308	214.38	348	243.33	388	272.20
29	16.40	69	43.02	109	70.93	149	99.41	189	128.20	229	157.13	269	186.12	309	215.10	349	244.05	389	272.92
30	17.04	70	43.71	110	71.63	150	100.13	190	128.92	230	157.85	270	186.84	310	215.83	350	244.77	390	273.64
31	17.68	71	44.39	111	72.34	151	100.85	191	129.64	231	158.58	271	187.57	311	216.55	351	245.49	391	274.36
32	18.32	72	45.08	112	73.05	152	101.56	192	130.36	232	159.30	272	188.29	312	217.28	352	246.22	392	275.08
33	18.96	73	45.77	113	73.75	153	102.28	193	131.08	233	160.02	273	189.02	313	218.00	353	246.94	393	275.80
34	19.61	74	46.46	114	74.46	154	103.00	194	131.81	234	160.75	274	189.74	314	218.72	354	247.66	394	276.52
35	20.25	75	47.15	115	75.17	155	103.72	195	132.53	235	161.47	275	190.47	315	219.45	355	248.38	395	277.25
36	20.90	76	47.84	116	75.88	156	104.43	196	133.25	236	162.20	276	191.19	316	220.17	356	249.11	396	277.97
37	21.55	77	48.53	117	76.59	157	105.15	197	133.97	237	162.92	277	191.92	317	220.90	357	249.83	397	278.69
38	22.20	78	49.22	118	77.30	158	105.87	198	134.70	238	163.65	278	192.64	318	221.62	358	250.55	398	279.41
39	22.86	79	49.92	119	78.01	159	106.59	199	135.42	239	164.37	279	193.36	319	222.34	359	251.27	399	280.13
40	23.51	80	50.61	120	78.72	160	107.31	200	136.14	240	165.10	280	194.09	320	223.07	360	252.00	400	280.85

Table 207.11 Chronic Water Quality Standards for Dissolved Lead - Aquatic and Wildlife

Chronic Standard = [e (1.273 [ln (hardness)] - 4.705)][1.46203-[ln (hardness)](0.145712)]

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	0.01	41	0.94	81	2.00	121	3.10	161	4.21	201	5.33	241	6.46	281	7.59	321	8.72	361	9.85
2	0.03	42	0.97	82	2.03	122	3.12	162	4.24	202	5.36	242	6.49	282	7.62	322	8.75	362	9.88
3	0.05	43	0.99	83	2.05	123	3.15	163	4.27	203	5.39	243	6.52	283	7.65	323	8.78	363	9.90
4	0.07	44	1.02	84	2.08	124	3.18	164	4.29	204	5.42	244	6.55	284	7.68	324	8.81	364	9.93
5	0.09	45	1.04	85	2.11	125	3.21	165	4.32	205	5.45	245	6.57	285	7.70	325	8.83	365	9.96
6	0.11	46	1.07	86	2.13	126	3.23	166	4.35	206	5.47	246	6.60	286	7.73	326	8.86	366	9.99
7	0.13	47	1.10	87	2.16	127	3.26	167	4.38	207	5.50	247	6.63	287	7.76	327	8.89	367	10.02
8	0.15	48	1.12	88	2.19	128	3.29	168	4.41	208	5.53	248	6.66	288	7.79	328	8.92	368	10.05
9	0.17	49	1.15	89	2.22	129	3.32	169	4.43	209	5.56	249	6.69	289	7.82	329	8.95	369	10.07
10	0.19	50	1.17	90	2.24	130	3.34	170	4.46	210	5.59	250	6.72	290	7.85	330	8.97	370	10.10
11	0.21	51	1.20	91	2.27	131	3.37	171	4.49	211	5.62	251	6.74	291	7.87	331	9.00	371	10.13
12	0.24	52	1.23	92	2.30	132	3.40	172	4.52	212	5.64	252	6.77	292	7.90	332	9.03	372	10.16
13	0.26	53	1.25	93	2.33	133	3.43	173	4.55	213	5.67	253	6.80	293	7.93	333	9.06	373	10.19
14	0.28	54	1.28	94	2.35	134	3.46	174	4.57	214	5.70	254	6.83	294	7.96	334	9.09	374	10.21
15	0.30	55	1.31	95	2.38	135	3.48	175	4.60	215	5.73	255	6.86	295	7.99	335	9.12	375	10.24
16	0.33	56	1.33	96	2.41	136	3.51	176	4.63	216	5.76	256	6.89	296	8.02	336	9.14	376	10.27
17	0.35	57	1.36	97	2.43	137	3.54	177	4.66	217	5.78	257	6.91	297	8.04	337	9.17	377	10.30
18	0.37	58	1.38	98	2.46	138	3.57	178	4.69	218	5.81	258	6.94	298	8.07	338	9.20	378	10.33
19	0.40	59	1.41	99	2.49	139	3.60	179	4.71	219	5.84	259	6.97	299	8.10	339	9.23	379	10.35
20	0.42	60	1.44	100	2.52	140	3.62	180	4.74	220	5.87	260	7.00	300	8.13	340	9.26	380	10.38
21	0.44	61	1.46	101	2.54	141	3.65	181	4.77	221	5.90	261	7.03	301	8.16	341	9.28	381	10.41
22	0.47	62	1.49	102	2.57	142	3.68	182	4.80	222	5.93	262	7.05	302	8.18	342	9.31	382	10.44
23	0.49	63	1.52	103	2.60	143	3.71	183	4.83	223	5.95	263	7.08	303	8.21	343	9.34	383	10.47
24	0.52	64	1.54	104	2.63	144	3.73	184	4.85	224	5.98	264	7.11	304	8.24	344	9.37	384	10.49
25	0.54	65	1.57	105	2.65	145	3.76	185	4.88	225	6.01	265	7.14	305	8.27	345	9.40	385	10.52
26	0.57	66	1.60	106	2.68	146	3.79	186	4.91	226	6.04	266	7.17	306	8.30	346	9.43	386	10.55
27	0.59	67	1.62	107	2.71	147	3.82	187	4.94	227	6.07	267	7.20	307	8.33	347	9.45	387	10.58
28	0.61	68	1.65	108	2.74	148	3.85	188	4.97	228	6.09	268	7.22	308	8.35	348	9.48	388	10.61
29	0.64	69	1.68	109	2.76	149	3.87	189	5.00	229	6.12	269	7.25	309	8.38	349	9.51	389	10.64
30	0.66	70	1.70	110	2.79	150	3.90	190	5.02	230	6.15	270	7.28	310	8.41	350	9.54	390	10.66
31	0.69	71	1.73	111	2.82	151	3.93	191	5.05	231	6.18	271	7.31	311	8.44	351	9.57	391	10.69
32	0.71	72	1.76	112	2.85	152	3.96	192	5.08	232	6.21	272	7.34	312	8.47	352	9.59	392	10.72
33	0.74	73	1.78	113	2.87	153	3.99	193	5.11	233	6.24	273	7.37	313	8.50	353	9.62	393	10.75
34	0.76	74	1.81	114	2.90	154	4.01	194	5.14	234	6.26	274	7.39	314	8.52	354	9.65	394	10.78
35	0.79	75	1.84	115	2.93	155	4.04	195	5.16	235	6.29	275	7.42	315	8.55	355	9.68	395	10.80
36	0.81	76	1.86	116	2.96	156	4.07	196	5.19	236	6.32	276	7.45	316	8.58	356	9.71	396	10.83
37	0.84	77	1.89	117	2.98	157	4.10	197	5.22	237	6.35	277	7.48	317	8.61	357	9.74	397	10.86
38	0.87	78	1.92	118	3.01	158	4.13	198	5.25	238	6.38	278	7.51	318	8.64	358	9.76	398	10.89
39	0.89	79	1.95	119	3.04	159	4.15	199	5.28	239	6.41	279	7.54	319	8.66	359	9.79	399	10.92
40	0.92	80	1.97	120	3.07	160	4.18	200	5.31	240	6.43	280	7.56	320	8.69	360	9.82	400	10.94

Table 207.12 Acute Water Quality Standards for Dissolved Nickel - Aquatic and Wildlife

Acute Standard = [e (0.8460 [ln (hardness)] + 2.255)]0.998

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	9.5	41	220	81	392	121	550	161	701	201	845	241	985	281	1122	321	1256	361	1387
2	17.1	42	225	82	396	122	554	162	704	202	849	242	989	282	1126	322	1259	362	1390
3	24.1	43	229	83	400	123	558	163	708	203	852	243	992	283	1129	323	1263	363	1394
4	30.7	44	234	84	404	124	562	164	712	204	856	244	996	284	1132	324	1266	364	1397
5	37.1	45	238	85	408	125	566	165	715	205	859	245	999	285	1136	325	1269	365	1400
6	43.3	46	243	86	412	126	569	166	719	206	863	246	1003	286	1139	326	1272	366	1403
7	49.4	47	247	87	416	127	573	167	723	207	867	247	1006	287	1142	327	1276	367	1407
8	55.3	48	252	88	420	128	577	168	726	208	870	248	1010	288	1146	328	1279	368	1410
9	61.1	49	256	89	424	129	581	169	730	209	874	249	1013	289	1149	329	1282	369	1413
10	66.8	50	260	90	428	130	585	170	734	210	877	250	1017	290	1153	330	1286	370	1416
11	72.4	51	265	91	432	131	588	171	737	211	881	251	1020	291	1156	331	1289	371	1420
12	77.9	52	269	92	436	132	592	172	741	212	884	252	1023	292	1159	332	1292	372	1423
13	83.3	53	274	93	440	133	596	173	744	213	888	253	1027	293	1163	333	1296	373	1426
14	88.7	54	278	94	444	134	600	174	748	214	891	254	1030	294	1166	334	1299	374	1429
15	94.1	55	282	95	448	135	604	175	752	215	895	255	1034	295	1169	335	1302	375	1433
16	99.3	56	287	96	452	136	607	176	755	216	898	256	1037	296	1173	336	1305	376	1436
17	105	57	291	97	456	137	611	177	759	217	902	257	1041	297	1176	337	1309	377	1439
18	110	58	295	98	460	138	615	178	763	218	905	258	1044	298	1179	338	1312	378	1442
19	115	59	300	99	464	139	619	179	766	219	909	259	1047	299	1183	339	1315	379	1445
20	120	60	304	100	468	140	622	180	770	220	912	260	1051	300	1186	340	1319	380	1449
21	125	61	308	101	472	141	626	181	774	221	916	261	1054	301	1189	341	1322	381	1452
22	130	62	312	102	476	142	630	182	777	222	919	262	1058	302	1193	342	1325	382	1455
23	135	63	317	103	480	143	634	183	781	223	923	263	1061	303	1196	343	1328	383	1458
24	140	64	321	104	484	144	637	184	784	224	926	264	1064	304	1199	344	1332	384	1462
25	145	65	325	105	488	145	641	185	788	225	930	265	1068	305	1203	345	1335	385	1465
26	150	66	329	106	492	146	645	186	792	226	933	266	1071	306	1206	346	1338	386	1468
27	155	67	334	107	496	147	649	187	795	227	937	267	1075	307	1209	347	1341	387	1471
28	159	68	338	108	500	148	652	188	799	228	940	268	1078	308	1213	348	1345	388	1474
29	164	69	342	109	504	149	656	189	802	229	944	269	1082	309	1216	349	1348	389	1478
30	169	70	346	110	508	150	660	190	806	230	947	270	1085	310	1219	350	1351	390	1481
31	174	71	350	111	511	151	664	191	810	231	951	271	1088	311	1223	351	1355	391	1484
32	179	72	355	112	515	152	667	192	813	232	954	272	1092	312	1226	352	1358	392	1487
33	183	73	359	113	519	153	671	193	817	233	958	273	1095	313	1229	353	1361	393	1490
34	188	74	363	114	523	154	675	194	820	234	961	274	1099	314	1233	354	1364	394	1494
35	193	75	367	115	527	155	678	195	824	235	965	275	1102	315	1236	355	1368	395	1497
36	197	76	371	116	531	156	682	196	827	236	968	276	1105	316	1239	356	1371	396	1500
37	202	77	375	117	535	157	686	197	831	237	972	277	1109	317	1243	357	1374	397	1503
38	207	78	379	118	539	158	689	198	835	238	975	278	1112	318	1246	358	1377	398	1506
39	211	79	384	119	542	159	693	199	838	239	979	279	1115	319	1249	359	1381	399	1510
40	216	80	388	120	546	160	697	200	842	240	982	280	1119	320	1253	360	1384	400	1513

Table 207.13 Chronic Water Quality Standards for Dissolved Nickel - Aquatic and Wildlife

Chronic Standard = [e (0.8460 [ln (hardness)] + 0.0584)]0.997

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	1.06	41	24.46	81	43.51	121	61.11	161	77.81	201	93.88	241	109.46	281	124.64	321	139.50	361	154.07
2	1.90	42	24.96	82	43.97	122	61.53	162	78.22	202	94.27	242	109.84	282	125.02	322	139.86	362	154.43
3	2.68	43	25.47	83	44.42	123	61.96	163	78.63	203	94.67	243	110.23	283	125.39	323	140.23	363	154.79
4	3.42	44	25.97	84	44.87	124	62.39	164	79.03	204	95.06	244	110.61	284	125.77	324	140.60	364	155.15
5	4.12	45	26.47	85	45.33	125	62.81	165	79.44	205	95.46	245	110.99	285	126.14	325	140.96	365	155.51
6	4.81	46	26.96	86	45.78	126	63.24	166	79.85	206	95.85	246	111.38	286	126.52	326	141.33	366	155.87
7	5.48	47	27.46	87	46.23	127	63.66	167	80.26	207	96.24	247	111.76	287	126.89	327	141.70	367	156.23
8	6.14	48	27.95	88	46.68	128	64.09	168	80.66	208	96.64	248	112.14	288	127.26	328	142.07	368	156.59
9	6.78	49	28.44	89	47.12	129	64.51	169	81.07	209	97.03	249	112.52	289	127.64	329	142.43	369	156.95
10	7.41	50	28.93	90	47.57	130	64.93	170	81.47	210	97.42	250	112.91	290	128.01	330	142.80	370	157.31
11	8.04	51	29.42	91	48.02	131	65.35	171	81.88	211	97.81	251	113.29	291	128.38	331	143.16	371	157.67
12	8.65	52	29.91	92	48.46	132	65.78	172	82.28	212	98.21	252	113.67	292	128.76	332	143.53	372	158.03
13	9.26	53	30.39	93	48.91	133	66.20	173	82.69	213	98.60	253	114.05	293	129.13	333	143.90	373	158.39
14	9.86	54	30.88	94	49.35	134	66.62	174	83.09	214	98.99	254	114.43	294	129.50	334	144.26	374	158.75
15	10.45	55	31.36	95	49.80	135	67.04	175	83.50	215	99.38	255	114.81	295	129.88	335	144.63	375	159.11
16	11.03	56	31.84	96	50.24	136	67.46	176	83.90	216	99.77	256	115.19	296	130.25	336	144.99	376	159.47
17	11.61	57	32.32	97	50.68	137	67.88	177	84.30	217	100.16	257	115.57	297	130.62	337	145.36	377	159.82
18	12.19	58	32.80	98	51.13	138	68.30	178	84.71	218	100.55	258	115.95	298	130.99	338	145.72	378	160.18
19	12.76	59	33.28	99	51.57	139	68.71	179	85.11	219	100.94	259	116.33	299	131.36	339	146.09	379	160.54
20	13.33	60	33.76	100	52.01	140	69.13	180	85.51	220	101.33	260	116.71	300	131.74	340	146.45	380	160.90
21	13.89	61	34.23	101	52.45	141	69.55	181	85.91	221	101.72	261	117.09	301	132.11	341	146.81	381	161.26
22	14.45	62	34.71	102	52.89	142	69.97	182	86.31	222	102.11	262	117.47	302	132.48	342	147.18	382	161.62
23	15.00	63	35.18	103	53.32	143	70.38	183	86.71	223	102.50	263	117.85	303	132.85	343	147.54	383	161.97
24	15.55	64	35.65	104	53.76	144	70.80	184	87.12	224	102.89	264	118.23	304	133.22	344	147.91	384	162.33
25	16.10	65	36.12	105	54.20	145	71.22	185	87.52	225	103.28	265	118.61	305	133.59	345	148.27	385	162.69
26	16.64	66	36.59	106	54.63	146	71.63	186	87.92	226	103.67	266	118.99	306	133.96	346	148.63	386	163.05
27	17.18	67	37.06	107	55.07	147	72.05	187	88.32	227	104.05	267	119.37	307	134.33	347	149.00	387	163.40
28	17.72	68	37.53	108	55.51	148	72.46	188	88.71	228	104.44	268	119.75	308	134.70	348	149.36	388	163.76
29	18.25	69	37.99	109	55.94	149	72.87	189	89.11	229	104.83	269	120.12	309	135.07	349	149.72	389	164.12
30	18.78	70	38.46	110	56.37	150	73.29	190	89.51	230	105.22	270	120.50	310	135.44	350	150.09	390	164.47
31	19.31	71	38.92	111	56.81	151	73.70	191	89.91	231	105.60	271	120.88	311	135.81	351	150.45	391	164.83
32	19.83	72	39.39	112	57.24	152	74.11	192	90.31	232	105.99	272	121.26	312	136.18	352	150.81	392	165.19
33	20.36	73	39.85	113	57.67	153	74.53	193	90.71	233	106.38	273	121.63	313	136.55	353	151.17	393	165.54
34	20.88	74	40.31	114	58.10	154	74.94	194	91.10	234	106.76	274	122.01	314	136.92	354	151.54	394	165.90
35	21.40	75	40.77	115	58.53	155	75.35	195	91.50	235	107.15	275	122.39	315	137.29	355	151.90	395	166.26
36	21.91	76	41.23	116	58.96	156	75.76	196	91.90	236	107.53	276	122.76	316	137.66	356	152.26	396	166.61
37	22.43	77	41.69	117	59.39	157	76.17	197	92.29	237	107.92	277	123.14	317	138.02	357	152.62	397	166.97
38	22.94	78	42.15	118	59.82	158	76.58	198	92.69	238	108.30	278	123.52	318	138.39	358	152.98	398	167.32
39	23.45	79	42.60	119	60.25	159	76.99	199	93.09	239	108.69	279	123.89	319	138.76	359	153.34	399	167.68
40	23.96	80	43.06	120	60.68	160	77.40	200	93.48	240	109.07	280	124.27	320	139.13	360	153.71	400	168.04

Table 207.14 Acute Water Quality Standards for Pentachlorophenol - Aquatic and Wildlife

Acute Standard = e (1.005 [pH-4.869])

pH	Std. ug/L	pH	Std. ug/L	pH	Std. ug/L
3	0.153	6.9	7.699	10.8	387.864
3.1	0.169	7	8.514	10.9	428.870
3.2	0.187	7.1	9.414	11	474.212
3.3	0.207	7.2	10.409		
3.4	0.228	7.3	11.509		
3.5	0.253	7.4	12.726		
3.6	0.279	7.5	14.072		
3.7	0.309	7.6	15.559		
3.8	0.342	7.7	17.204		
3.9	0.378	7.8	19.023		
4	0.418	7.9	21.034		
4.1	0.462	8	23.258		
4.2	0.511	8.1	25.717		
4.3	0.564	8.2	28.436		
4.4	0.624	8.3	31.442		
4.5	0.690	8.4	34.767		
4.6	0.763	8.5	38.442		
4.7	0.844	8.6	42.506		
4.8	0.933	8.7	47.000		
4.9	1.032	8.8	51.969		
5	1.141	8.9	57.464		
5.1	1.261	9	63.539		
5.2	1.395	9.1	70.257		
5.3	1.542	9.2	77.684		
5.4	1.705	9.3	85.898		
5.5	1.885	9.4	94.979		
5.6	2.085	9.5	105.020		
5.7	2.305	9.6	116.124		
5.8	2.549	9.7	128.401		
5.9	2.818	9.8	141.976		
6	3.116	9.9	156.986		
6.1	3.446	10	173.583		
6.2	3.810	10.1	191.935		
6.3	4.213	10.2	212.227		
6.4	4.658	10.3	234.664		
6.5	5.151	10.4	259.474		
6.6	5.695	10.5	286.906		
6.7	6.298	10.6	317.239		
6.8	6.963	10.7	350.779		

Table 207.15 Chronic Water Quality Standards for Pentachlorophenol - Aquatic and Wildlife

Chronic Standard = e (1.005 [pH-5.134])

pH	Std. ug/L	pH	Std. ug/L	pH	Std. ug/L
3	0.117	6.9	5.899	10.8	297.178
3.1	0.129	7	6.523	10.9	328.596
3.2	0.143	7.1	7.213	11	363.337
3.3	0.158	7.2	7.975		
3.4	0.175	7.3	8.818		
3.5	0.194	7.4	9.751		
3.6	0.214	7.5	10.781		
3.7	0.237	7.6	11.921		
3.8	0.262	7.7	13.182		
3.9	0.289	7.8	14.575		
4	0.320	7.9	16.116		
4.1	0.354	8	17.820		
4.2	0.391	8.1	19.704		
4.3	0.433	8.2	21.787		
4.4	0.478	8.3	24.091		
4.5	0.529	8.4	26.638		
4.6	0.585	8.5	29.454		
4.7	0.647	8.6	32.568		
4.8	0.715	8.7	36.011		
4.9	0.790	8.8	39.818		
5	0.874	8.9	44.028		
5.1	0.966	9	48.683		
5.2	1.069	9.1	53.830		
5.3	1.182	9.2	59.521		
5.4	1.306	9.3	65.814		
5.5	1.445	9.4	72.772		
5.6	1.597	9.5	80.466		
5.7	1.766	9.6	88.973		
5.8	1.953	9.7	98.379		
5.9	2.159	9.8	108.780		
6	2.388	9.9	120.281		
6.1	2.640	10	132.997		
6.2	2.919	10.1	147.058		
6.3	3.228	10.2	162.606		
6.4	3.569	10.3	179.797		
6.5	3.947	10.4	198.806		
6.6	4.364	10.5	219.825		
6.7	4.825	10.6	243.065		
6.8	5.335	10.7	268.763		

Table 207.16 Acute Water Quality Standards for Dissolved Silver - Aquatic and Wildlife

Acute Standard = [e (1.72 [ln (hardness)] - 6.59)]0.85

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	0.001	41	0.69	81	2.24	121	4.46	161	7.30	201	10.69	241	14.60	281	19.02	321	23.91	361	29.26
2	0.004	42	0.72	82	2.29	122	4.53	162	7.38	202	10.78	242	14.71	282	19.14	322	24.04	362	29.40
3	0.01	43	0.75	83	2.33	123	4.59	163	7.45	203	10.87	243	14.81	283	19.25	323	24.17	363	29.54
4	0.01	44	0.78	84	2.38	124	4.66	164	7.53	204	10.96	244	14.92	284	19.37	324	24.30	364	29.68
5	0.02	45	0.81	85	2.43	125	4.72	165	7.61	205	11.06	245	15.02	285	19.49	325	24.43	365	29.82
6	0.03	46	0.85	86	2.48	126	4.79	166	7.69	206	11.15	246	15.13	286	19.61	326	24.56	366	29.96
7	0.03	47	0.88	87	2.53	127	4.85	167	7.77	207	11.24	247	15.24	287	19.72	327	24.69	367	30.11
8	0.04	48	0.91	88	2.58	128	4.92	168	7.85	208	11.34	248	15.34	288	19.84	328	24.82	368	30.25
9	0.05	49	0.94	89	2.63	129	4.98	169	7.93	209	11.43	249	15.45	289	19.96	329	24.95	369	30.39
10	0.06	50	0.98	90	2.68	130	5.05	170	8.01	210	11.52	250	15.56	290	20.08	330	25.08	370	30.53
11	0.07	51	1.01	91	2.74	131	5.12	171	8.09	211	11.62	251	15.66	291	20.20	331	25.21	371	30.67
12	0.08	52	1.04	92	2.79	132	5.19	172	8.18	212	11.71	252	15.77	292	20.32	332	25.34	372	30.81
13	0.10	53	1.08	93	2.84	133	5.25	173	8.26	213	11.81	253	15.88	293	20.44	333	25.47	373	30.96
14	0.11	54	1.11	94	2.89	134	5.32	174	8.34	214	11.91	254	15.99	294	20.56	334	25.60	374	31.10
15	0.12	55	1.15	95	2.95	135	5.39	175	8.42	215	12.00	255	16.09	295	20.68	335	25.73	375	31.24
16	0.14	56	1.19	96	3.00	136	5.46	176	8.51	216	12.10	256	16.20	296	20.80	336	25.87	376	31.39
17	0.15	57	1.22	97	3.05	137	5.53	177	8.59	217	12.19	257	16.31	297	20.92	337	26.00	377	31.53
18	0.17	58	1.26	98	3.11	138	5.60	178	8.67	218	12.29	258	16.42	298	21.04	338	26.13	378	31.67
19	0.18	59	1.30	99	3.16	139	5.67	179	8.76	219	12.39	259	16.53	299	21.16	339	26.26	379	31.82
20	0.20	60	1.34	100	3.22	140	5.74	180	8.84	220	12.48	260	16.64	300	21.28	340	26.40	380	31.96
21	0.22	61	1.37	101	3.27	141	5.81	181	8.93	221	12.58	261	16.75	301	21.41	341	26.53	381	32.11
22	0.24	62	1.41	102	3.33	142	5.88	182	9.01	222	12.68	262	16.86	302	21.53	342	26.67	382	32.25
23	0.26	63	1.45	103	3.38	143	5.95	183	9.10	223	12.78	263	16.97	303	21.65	343	26.80	383	32.40
24	0.28	64	1.49	104	3.44	144	6.02	184	9.18	224	12.88	264	17.08	304	21.78	344	26.93	384	32.54
25	0.30	65	1.53	105	3.50	145	6.09	185	9.27	225	12.98	265	17.19	305	21.90	345	27.07	385	32.69
26	0.32	66	1.57	106	3.56	146	6.17	186	9.35	226	13.08	266	17.31	306	22.02	346	27.20	386	32.84
27	0.34	67	1.62	107	3.61	147	6.24	187	9.44	227	13.18	267	17.42	307	22.15	347	27.34	387	32.98
28	0.36	68	1.66	108	3.67	148	6.31	188	9.53	228	13.28	268	17.53	308	22.27	348	27.47	388	33.13
29	0.38	69	1.70	109	3.73	149	6.39	189	9.61	229	13.38	269	17.64	309	22.39	349	27.61	389	33.28
30	0.41	70	1.74	110	3.79	150	6.46	190	9.70	230	13.48	270	17.76	310	22.52	350	27.75	390	33.42
31	0.43	71	1.78	111	3.85	151	6.54	191	9.79	231	13.58	271	17.87	311	22.64	351	27.88	391	33.57
32	0.45	72	1.83	112	3.91	152	6.61	192	9.88	232	13.68	272	17.98	312	22.77	352	28.02	392	33.72
33	0.48	73	1.87	113	3.97	153	6.68	193	9.97	233	13.78	273	18.10	313	22.90	353	28.16	393	33.87
34	0.50	74	1.92	114	4.03	154	6.76	194	10.06	234	13.88	274	18.21	314	23.02	354	28.29	394	34.02
35	0.53	75	1.96	115	4.09	155	6.84	195	10.15	235	13.98	275	18.33	315	23.15	355	28.43	395	34.16
36	0.55	76	2.01	116	4.15	156	6.91	196	10.24	236	14.09	276	18.44	316	23.27	356	28.57	396	34.31
37	0.58	77	2.05	117	4.21	157	6.99	197	10.33	237	14.19	277	18.56	317	23.40	357	28.71	397	34.46
38	0.61	78	2.10	118	4.28	158	7.06	198	10.42	238	14.29	278	18.67	318	23.53	358	28.85	398	34.61
39	0.64	79	2.14	119	4.34	159	7.14	199	10.51	239	14.40	279	18.79	319	23.66	359	28.99	399	34.76
40	0.67	80	2.19	120	4.40	160	7.22	200	10.60	240	14.50	280	18.90	320	23.78	360	29.12	400	34.91

Table 207.17 Acute Water Quality Standards for Dissolved Zinc - Aquatic and Wildlife

Acute Standard = [e (0.8473 [ln (hardness)] + 0.884)]0.978

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	2.4	41	55.1	81	98.0	121	137.7	161	175.4	201	211.7	241	246.9	281	281.2	321	314.8	361	347.7
2	4.3	42	56.2	82	99.0	122	138.7	162	176.4	202	212.6	242	247.8	282	282.1	322	315.6	362	348.5
3	6.0	43	57.3	83	100.1	123	139.6	163	177.3	203	213.5	243	248.6	283	282.9	323	316.4	363	349.4
4	7.7	44	58.4	84	101.1	124	140.6	164	178.2	204	214.4	244	249.5	284	283.8	324	317.3	364	350.2
5	9.3	45	59.6	85	102.1	125	141.6	165	179.1	205	215.3	245	250.4	285	284.6	325	318.1	365	351.0
6	10.8	46	60.7	86	103.1	126	142.5	166	180.0	206	216.2	246	251.2	286	285.5	326	318.9	366	351.8
7	12.3	47	61.8	87	104.1	127	143.5	167	181.0	207	217.1	247	252.1	287	286.3	327	319.8	367	352.6
8	13.8	48	62.9	88	105.2	128	144.4	168	181.9	208	217.9	248	253.0	288	287.1	328	320.6	368	353.4
9	15.2	49	64.0	89	106.2	129	145.4	169	182.8	209	218.8	249	253.8	289	288.0	329	321.4	369	354.2
10	16.7	50	65.1	90	107.2	130	146.4	170	183.7	210	219.7	250	254.7	290	288.8	330	322.2	370	355.1
11	18.1	51	66.2	91	108.2	131	147.3	171	184.6	211	220.6	251	255.6	291	289.7	331	323.1	371	355.9
12	19.4	52	67.3	92	109.2	132	148.3	172	185.5	212	221.5	252	256.4	292	290.5	332	323.9	372	356.7
13	20.8	53	68.4	93	110.2	133	149.2	173	186.4	213	222.4	253	257.3	293	291.4	333	324.7	373	357.5
14	22.1	54	69.5	94	111.2	134	150.2	174	187.4	214	223.3	254	258.1	294	292.2	334	325.6	374	358.3
15	23.5	55	70.6	95	112.2	135	151.1	175	188.3	215	224.1	255	259.0	295	293.0	335	326.4	375	359.1
16	24.8	56	71.7	96	113.2	136	152.1	176	189.2	216	225.0	256	259.9	296	293.9	336	327.2	376	359.9
17	26.1	57	72.8	97	114.2	137	153.0	177	190.1	217	225.9	257	260.7	297	294.7	337	328.0	377	360.7
18	27.4	58	73.9	98	115.2	138	153.9	178	191.0	218	226.8	258	261.6	298	295.6	338	328.9	378	361.5
19	28.7	59	74.9	99	116.2	139	154.9	179	191.9	219	227.7	259	262.4	299	296.4	339	329.7	379	362.4
20	30.0	60	76.0	100	117.2	140	155.8	180	192.8	220	228.6	260	263.3	300	297.2	340	330.5	380	363.2
21	31.2	61	77.1	101	118.2	141	156.8	181	193.7	221	229.4	261	264.2	301	298.1	341	331.3	381	364.0
22	32.5	62	78.2	102	119.2	142	157.7	182	194.6	222	230.3	262	265.0	302	298.9	342	332.2	382	364.8
23	33.7	63	79.2	103	120.2	143	158.7	183	195.5	223	231.2	263	265.9	303	299.8	343	333.0	383	365.6
24	35.0	64	80.3	104	121.1	144	159.6	184	196.4	224	232.1	264	266.7	304	300.6	344	333.8	384	366.4
25	36.2	65	81.3	105	122.1	145	160.5	185	197.3	225	232.9	265	267.6	305	301.4	345	334.6	385	367.2
26	37.4	66	82.4	106	123.1	146	161.5	186	198.3	226	233.8	266	268.4	306	302.3	346	335.4	386	368.0
27	38.6	67	83.5	107	124.1	147	162.4	187	199.2	227	234.7	267	269.3	307	303.1	347	336.3	387	368.8
28	39.9	68	84.5	108	125.1	148	163.3	188	200.1	228	235.6	268	270.2	308	304.0	348	337.1	388	369.6
29	41.1	69	85.6	109	126.1	149	164.3	189	201.0	229	236.5	269	271.0	309	304.8	349	337.9	389	370.4
30	42.2	70	86.6	110	127.0	150	165.2	190	201.9	230	237.3	270	271.9	310	305.6	350	338.7	390	371.2
31	43.4	71	87.7	111	128.0	151	166.2	191	202.8	231	238.2	271	272.7	311	306.5	351	339.5	391	372.1
32	44.6	72	88.7	112	129.0	152	167.1	192	203.7	232	239.1	272	273.6	312	307.3	352	340.4	392	372.9
33	45.8	73	89.8	113	130.0	153	168.0	193	204.6	233	239.9	273	274.4	313	308.1	353	341.2	393	373.7
34	47.0	74	90.8	114	130.9	154	168.9	194	205.5	234	240.8	274	275.3	314	309.0	354	342.0	394	374.5
35	48.1	75	91.8	115	131.9	155	169.9	195	206.3	235	241.7	275	276.1	315	309.8	355	342.8	395	375.3
36	49.3	76	92.9	116	132.9	156	170.8	196	207.2	236	242.6	276	277.0	316	310.6	356	343.6	396	376.1
37	50.5	77	93.9	117	133.9	157	171.7	197	208.1	237	243.4	277	277.8	317	311.5	357	344.5	397	376.9
38	51.6	78	94.9	118	134.8	158	172.7	198	209.0	238	244.3	278	278.7	318	312.3	358	345.3	398	377.7
39	52.8	79	96.0	119	135.8	159	173.6	199	209.9	239	245.2	279	279.5	319	313.1	359	346.1	399	378.5
40	53.9	80	97.0	120	136.8	160	174.5	200	210.8	240	246.0	280	280.4	320	314.0	360	346.9	400	379.3

Table 207.18 Chronic Water Quality Standards for Dissolved Zinc - Aquatic and Wildlife

Chronic Standard = [e (0.8473 [ln (hardness)] + 0.884)]0.986

Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L	Hard. mg/L	Std. ug/L
1	2.4	41	55.5	81	98.8	121	138.8	161	176.9	201	213.4	241	248.9	281	283.5	321	317.4	361	350.6
2	4.3	42	56.6	82	99.9	122	139.8	162	177.8	202	214.3	242	249.8	282	284.4	322	318.2	362	351.4
3	6.1	43	57.8	83	100.9	123	140.8	163	178.7	203	215.2	243	250.7	283	285.2	323	319.0	363	352.2
4	7.7	44	58.9	84	101.9	124	141.8	164	179.7	204	216.1	244	251.6	284	286.1	324	319.9	364	353.0
5	9.3	45	60.1	85	102.9	125	142.7	165	180.6	205	217.0	245	252.4	285	286.9	325	320.7	365	353.9
6	10.9	46	61.2	86	104.0	126	143.7	166	181.5	206	217.9	246	253.3	286	287.8	326	321.5	366	354.7
7	12.4	47	62.3	87	105.0	127	144.7	167	182.4	207	218.8	247	254.2	287	288.6	327	322.4	367	355.5
8	13.9	48	63.4	88	106.0	128	145.6	168	183.4	208	219.7	248	255.0	288	289.5	328	323.2	368	356.3
9	15.4	49	64.6	89	107.0	129	146.6	169	184.3	209	220.6	249	255.9	289	290.3	329	324.1	369	357.1
10	16.8	50	65.7	90	108.0	130	147.5	170	185.2	210	221.5	250	256.8	290	291.2	330	324.9	370	358.0
11	18.2	51	66.8	91	109.1	131	148.5	171	186.1	211	222.4	251	257.7	291	292.0	331	325.7	371	358.8
12	19.6	52	67.9	92	110.1	132	149.5	172	187.0	212	223.3	252	258.5	292	292.9	332	326.6	372	359.6
13	21.0	53	69.0	93	111.1	133	150.4	173	188.0	213	224.2	253	259.4	293	293.7	333	327.4	373	360.4
14	22.3	54	70.1	94	112.1	134	151.4	174	188.9	214	225.1	254	260.3	294	294.6	334	328.2	374	361.2
15	23.7	55	71.2	95	113.1	135	152.3	175	189.8	215	226.0	255	261.1	295	295.4	335	329.1	375	362.1
16	25.0	56	72.3	96	114.1	136	153.3	176	190.7	216	226.9	256	262.0	296	296.3	336	329.9	376	362.9
17	26.3	57	73.4	97	115.1	137	154.3	177	191.6	217	227.8	257	262.9	297	297.1	337	330.7	377	363.7
18	27.6	58	74.5	98	116.1	138	155.2	178	192.6	218	228.6	258	263.7	298	298.0	338	331.5	378	364.5
19	28.9	59	75.6	99	117.1	139	156.2	179	193.5	219	229.5	259	264.6	299	298.8	339	332.4	379	365.3
20	30.2	60	76.6	100	118.1	140	157.1	180	194.4	220	230.4	260	265.5	300	299.7	340	333.2	380	366.1
21	31.5	61	77.7	101	119.1	141	158.1	181	195.3	221	231.3	261	266.3	301	300.5	341	334.0	381	367.0
22	32.8	62	78.8	102	120.1	142	159.0	182	196.2	222	232.2	262	267.2	302	301.4	342	334.9	382	367.8
23	34.0	63	79.9	103	121.1	143	160.0	183	197.1	223	233.1	263	268.1	303	302.2	343	335.7	383	368.6
24	35.3	64	80.9	104	122.1	144	160.9	184	198.0	224	234.0	264	268.9	304	303.1	344	336.5	384	369.4
25	36.5	65	82.0	105	123.1	145	161.9	185	199.0	225	234.9	265	269.8	305	303.9	345	337.4	385	370.2
26	37.7	66	83.1	106	124.1	146	162.8	186	199.9	226	235.7	266	270.6	306	304.8	346	338.2	386	371.0
27	39.0	67	84.1	107	125.1	147	163.7	187	200.8	227	236.6	267	271.5	307	305.6	347	339.0	387	371.8
28	40.2	68	85.2	108	126.1	148	164.7	188	201.7	228	237.5	268	272.4	308	306.4	348	339.8	388	372.7
29	41.4	69	86.3	109	127.1	149	165.6	189	202.6	229	238.4	269	273.2	309	307.3	349	340.7	389	373.5
30	42.6	70	87.3	110	128.1	150	166.6	190	203.5	230	239.3	270	274.1	310	308.1	350	341.5	390	374.3
31	43.8	71	88.4	111	129.1	151	167.5	191	204.4	231	240.1	271	274.9	311	309.0	351	342.3	391	375.1
32	45.0	72	89.4	112	130.0	152	168.4	192	205.3	232	241.0	272	275.8	312	309.8	352	343.1	392	375.9
33	46.2	73	90.5	113	131.0	153	169.4	193	206.2	233	241.9	273	276.7	313	310.6	353	344.0	393	376.7
34	47.4	74	91.5	114	132.0	154	170.3	194	207.1	234	242.8	274	277.5	314	311.5	354	344.8	394	377.5
35	48.5	75	92.6	115	133.0	155	171.3	195	208.0	235	243.7	275	278.4	315	312.3	355	345.6	395	378.3
36	49.7	76	93.6	116	134.0	156	172.2	196	208.9	236	244.5	276	279.2	316	313.2	356	346.4	396	379.2
37	50.9	77	94.7	117	134.9	157	173.1	197	209.8	237	245.4	277	280.1	317	314.0	357	347.3	397	380.0
38	52.0	78	95.7	118	135.9	158	174.1	198	210.7	238	246.3	278	281.0	318	314.8	358	348.1	398	380.8
39	53.2	79	96.8	119	136.9	159	175.0	199	211.6	239	247.2	279	281.8	319	315.7	359	348.9	399	381.6
40	54.4	80	97.8	120	137.9	160	175.9	200	212.5	240	248.1	280	282.7	320	316.5	360	349.7	400	382.4

Table 207.19 Maximum Total Ammonia Concentration Acute Standard for Aquatic and Wildlife (Salmonids Present) (Total Ammonia mg-N/liter)

	Temperature (°C)																
pH	**0-14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
6.5	33	33	32	29	27	25	23	21	19	18	16	15	14	13	12	11	9.9
6.6	31	31	30	28	26	24	22	20	18	17	16	14	13	12	11	10	9.5
6.7	30	30	29	27	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0
6.8	28	28	27	25	23	21	20	18	17	15	14	13	12	11	10	9.2	8.5
6.9	26	26	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9
7.0	24	24	23	21	20	18	**17**	15	14	13	12	11	10	9.4	8.6	8.0	7.3
7.1	22	22	21	20	18	17	15	14	13	12	11	10	9.3	8.5	7.9	7.2	6.7
7.2	20	20	19	18	16	15	14	13	12	11	9.8	9.1	8.3	7.7	7.1	6.5	6.0
7.3	18	18	17	16	14	13	12	11	10	9.5	8.7	8.0	7.4	6.8	6.3	5.8	5.3
7.4	15	15	15	14	13	12	11	9.8	9.0	8.3	7.7	7.0	6.5	6.0	5.5	5.1	4.7
7.5	13	13	13	12	11	10	9.2	8.5	7.8	7.2	6.6	6.1	5.6	5.2	4.8	4.4	4.0
7.6	11	11	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5
7.7	9.6	9.6	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	3.2	3.0
7.8	8.1	8.1	7.9	7.2	6.7	6.1	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.2	2.9	2.7	2.5
7.9	6.8	6.8	6.6	6.0	5.6	5.1	4.7	4.3	4.0	3.7	3.4	3.1	2.9	2.6	2.4	2.2	2.1
8.0	5.6	5.6	5.4	5.0	4.6	4.2	3.9	3.6	3.3	3.0	2.8	2.6	2.4	2.2	2.0	1.9	1.7
8.1	4.6	4.6	4.5	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4
8.2	3.8	3.8	3.7	3.5	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2
8.3	3.1	3.1	3.1	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.96
8.4	2.6	2.6	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79
8.5	2.1	2.1	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	0.98	0.90	0.83	0.77	0.71	0.65
8.6	1.8	1.8	1.7	1.6	1.5	1.3	1.2	1.1	1.0	0.96	0.88	0.81	0.75	0.69	0.63	0.59	0.54
8.7	1.5	1.5	1.4	1.3	1.2	1.1	1.0	0.94	0.87	0.80	0.74	0.68	0.62	0.57	0.53	0.49	0.45
8.8	1.2	1.2	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37
8.9	1.0	1.0	1.0	0.93	0.85	0.79	0.72	0.67	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.32
9.0	0.88	0.88	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	0.34	0.32	0.29	0.27

Notes: pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.

Table 207.20 Maximum Total Ammonia Concentration Acute Standard for Aquatic and Wildlife (Salmonids Absent) (Total Ammonia mg-N/liter)

Temperature (°C)

pH	0-10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	51	48	44	41	37	34	32	29	27	25	23	21	19	18	16	15	14	13	12	11	9.9
6.6	49	46	42	39	36	33	30	28	26	24	22	20	18	17	16	14	13	12	11	10	9.5
6.7	46	44	40	37	34	31	29	27	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0
6.8	44	41	38	35	32	30	27	25	23	21	20	18	17	15	14	13	12	11	10	9.2	8.5
6.9	41	38	35	32	30	28	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9
7.0	38	35	33	30	28	25	23	21	20	18	**17**	15	14	13	12	11	10	9.4	8.6	7.9	7.3
7.1	34	32	30	27	25	23	21	20	18	17	15	14	13	12	11	10	9.3	8.5	7.9	7.2	6.7
7.2	31	29	27	25	23	21	19	18	16	15	14	13	12	11	9.8	9.1	8.3	7.7	7.1	6.5	6.0
7.3	27	26	24	22	20	18	17	16	14	13	12	11	10	9.5	8.7	8.0	7.4	6.8	6.3	5.8	5.3
7.4	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0	8.3	7.7	7.0	6.5	6.0	5.5	5.1	4.7
7.5	21	19	18	17	15	14	13	12	11	10	9.2	8.5	7.8	7.2	6.6	6.1	5.6	5.2	4.8	4.4	4.0
7.6	18	17	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5
7.7	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	3.2	2.9
7.8	13	12	11	10	9.3	8.5	7.9	7.2	6.7	6.1	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.2	2.9	2.7	2.5
7.9	11	9.9	9.1	8.4	7.7	7.1	6.6	3.0	5.6	5.1	4.7	4.3	4.0	3.7	3.4	3.1	2.9	2.6	2.4	2.2	2.1
8.0	8.8	8.2	7.6	7.0	6.4	5.9	5.4	5.0	4.6	4.2	3.9	3.6	3.3	3.0	2.8	2.6	2.4	2.2	2.0	1.9	1.7
8.1	7.2	6.8	6.3	5.8	5.3	4.9	4.5	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4
8.2	6.0	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2
8.3	4.9	4.6	4.3	3.9	3.6	3.3	3.1	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.96
8.4	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79
8.5	3.3	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	0.98	0.90	0.83	0.77	0.71	0.65
8.6	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.5	1.3	1.2	1.1	1.0	0.96	0.88	0.81	0.75	0.69	0.63	0.58	0.54
8.7	2.3	2.2	2.0	1.8	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.94	0.87	0.80	0.74	0.68	0.62	0.57	0.53	0.49	0.45
8.8	1.9	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37
8.9	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.85	0.79	0.72	0.67	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.32
9.0	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	0.34	0.32	0.29	0.27

Notes: pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.

Table 207.21 Maximum Total Ammonia Concentration Chronic Standard for Aquatic and Wildlife (Total Ammonia mg-N/liter)

Temperature (°C)

pH	0-7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	4.9	4.6	4.3	4.1	3.8	3.6	3.3	3.1	2.9	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.6	1.5	1.5	1.4	1.3	1.2	1.1
6.6	4.8	4.5	4.3	4.0	3.8	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1
6.7	4.8	4.5	4.2	3.9	3.7	3.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1
6.8	4.6	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1
6.9	4.5	4.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0
7.0	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	0.99
7.1	4.2	3.9	3.7	3.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95
7.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	0.96	0.90
7.3	3.8	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	0.97	0.91	0.85
7.4	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	0.96	0.90	0.85	0.79
7.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95	0.89	0.83	0.78	0.73
7.6	2.9	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.6	1.5	1.4	1.4	1.3	1.2	1.1	1.1	0.98	0.92	0.86	0.81	0.76	0.71	0.67
7.7	2.6	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60
7.8	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53
7.9	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.47
8.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60	0.56	0.53	0.50	0.44	0.44	0.41
8.1	1.5	1.5	1.4	1.3	1.2	1.1	1.1	0.99	0.92	0.87	0.81	0.76	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.40	0.38	0.35
8.2	1.3	1.2	1.2	1.1	1.0	0.96	0.90	0.84	0.79	0.74	0.70	0.65	0.61	0.57	0.54	0.50	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.30
8.3	1.1	1.1	0.99	0.93	0.87	0.82	0.76	0.72	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.26
8.4	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.47	0.44	0.41	0.39	0.36	0.34	0.32	0.30	0.28	0.26	0.25	0.23	0.22
8.5	0.80	0.75	0.71	0.67	0.62	0.58	0.55	0.51	0.48	0.45	0.42	0.40	0.37	0.35	0.33	0.31	0.29	0.27	0.25	0.24	0.22	0.21	0.20	0.18
8.6	0.68	0.64	0.60	0.56	0.53	0.49	0.46	0.43	0.41	0.38	0.36	0.33	0.31	0.29	0.28	0.26	0.24	0.23	0.21	0.20	0.19	0.18	0.16	0.15
8.7	0.57	0.54	0.51	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13
8.8	0.49	0.46	0.43	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.26	0.24	0.23	0.21	0.20	0.19	0.17	0.16	0.15	0.14	0.13	0.13	0.12	0.11
8.9	0.42	0.39	0.37	0.34	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.12	0.11	0.10	0.09
9.0	0.36	0.34	0.32	0.30	0.28	0.26	0.24	0.23	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.11	0.10	0.09	0.09	0.08

Notes: pH and temperature are field measurements taken at the same time and location as the water samples destined for the laboratory analysis of ammonia.

Footnotes to the Numeric Surface Water Quality Standards

a - Cadmium (dissolved)

acute: $\left[e^{(1.0166\,[\ln(\text{hardness})] - 3.924)}\right]\left[1.136672 - [\ln(\text{hardness})](0.041838)\right]$

chronic: $\left[e^{(0.7409\,[\ln(\text{hardness})] - 4.719)}\right]\left[1.101672 - [\ln(\text{hardness})](0.041838)\right]$

b - Chromium III (dissolved)

acute: $\left[e^{(0.8190\,[\ln(\text{hardness})] + 3.7256)}\right] 0.316$

chronic: $\left[e^{(0.8190\,[\ln(\text{hardness})] + 0.6848)}\right] 0.860$

c - Copper (dissolved)

acute: $\left[e^{(0.9422\,[\ln(\text{hardness})] - 1.700)}\right] 0.960$

chronic: $\left[e^{(0.8545\,[\ln(\text{hardness})] - 1.702)}\right] 0.960$

d - Lead (dissolved)

acute: $\left[e^{(1.273\,[\ln(\text{hardness})] - 1.460)}\right]\left[1.46203 - [\ln(\text{hardness})](0.145712)\right]$

chronic: $\left[e^{(1.273\,[\ln(\text{hardness})] - 4.705)}\right]\left[1.46203 - [\ln(\text{hardness})](0.145712)\right]$

e - Nickel (dissolved)

acute: $\left[e^{(0.8460\,[\ln(\text{hardness})] + 2.255)}\right] 0.998$

chronic: $\left[e^{(0.8460\,[\ln(\text{hardness})] + 0.0584)}\right] 0.997$

h - Pentachlorophenol

acute: $e^{(1.005\,[\text{pH} - 4.869])}$ chronic: $e^{(1.005\,[\text{pH} - 5.134])}$

f - Silver (dissolved)

acute: $\left[e^{(1.72\,[\ln(\text{hardness})] - 6.59)}\right] 0.85$ chronic: NCNS

g - Zinc (dissolved)

acute: $\left[e^{(0.8473\,[\ln(\text{hardness})] + 0.884)}\right] 0.978$

chronic: $\left[e^{(0.8473\,[\ln(\text{hardness})] + 0.884)}\right] 0.986$

- Hardness, expressed as mg/L calcium carbonate, is inserted into the equation where it says "hardness".

a. The hardness-dependent formulae for metals shall be valid only for hardness values from 0 to 400 mg/L calcium carbonate. For values above 400 mg/L, the value for 400 mg/L shall apply

- The pH is inserted into the equation where it says "pH". pH is determined according to the following criteria:

a. If the water body has an Aquatic and Wildlife Habitat designated use, then the pH is based on the pH of either the effluent (for a point source discharge) or the water body from a sample taken at the same time that the sample for pentachlorophenol is taken.

i - Information on the mercury and methylmercury chronic numeric standards for the Aquatic and Wildlife Habitat use may be found in the United States Fish and Wildlife Service's July 2006 fish tissue study entitled: "Methylmercury and Other Environmental Contaminants in Water and Fish Collected from Four Recreational Fishing Lakes on the Navajo Nation, 2004".

Abbreviations

NCNS - No Current Numeric Standard **D** - Dissolved

CAS Number - Chemical Abstracts Service (CAS) Registry Numbers are unique numerical identifiers assigned to chemical substances recorded in the CAS Chemical Registry System.

mg - milligram(s) ug - microgram(s) um - micrometer(s)

L - Liter N - Nitrogen pCi - picocurie(s)